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Review of Educational Research

VOL. XXII, No. 2

APRIL 1952

desk

LANGUAGE ARTS AND FINE ARTS

AMERICAN EDUCATIONAL RESEARCH ASSOCIATION

A Department of the

NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES

1201 Sixteenth St., N.W., Washington 6, D. C.

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Active and associate members of the Association pay dues of \$8 annually. Of this amount \$5 is for subscription to the REVIEW. The REVIEW is published in February, April, June, October, and December. Beginning with the February 1949 issue single copies are priced at \$1.50.

Entered as second-class matter April 10, 1931, at the post office at Washington, D. C., under the Act of August 24, 1912.

REVIEW OF EDUCATIONAL RESEARCH

Official Publication of the American Educational Research Association.
Contents are listed in the Education Index.

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Vol. XXII, No. 2

April 1952

Language Arts and Fine Arts

Reviews the literature for a three-year period since the issuance of Volume XIX, No. 2, April 1949, with the exception of music and foreign languages in which a six-year period is covered.

TABLE OF CONTENTS

Chapter	Page
Foreword	64
I. Research in Reading in the Elementary School	65
MARGARET LEE KEYSER, <i>State University of Iowa, Iowa City, Iowa</i>	
II. Research in Reading in High School and College	76
FREDERICK B. DAVIS, <i>Hunter College, New York, New York</i>	
III. Research in Spelling and Handwriting	89
JAMES A. FITZGERALD, <i>Fordham University, New York, New York</i>	
IV. English Composition	96
M. ACNELLA GUNN, <i>Boston University, Boston, Massachusetts</i>	
ELIZABETH R. BARLOW, <i>State Teachers College, Worcester, Massachusetts</i>	
	61

Chapter	Page
V. Speech	102
FRANKLIN H. KNOWER, <i>Ohio State University, Columbus, Ohio</i>	
VI. Instruction in Foreign Languages	116
JOHN B. CARROLL, <i>Harvard University, Cambridge, Massachusetts</i>	
S. EARLE RICHARDS, <i>Harvard University, Cambridge, Massachusetts</i>	
VII. Music Education	136
WARREN S. FREEMAN, <i>Boston University, Boston, Massachusetts</i>	
VIII. Fine Arts	141
RALPH L. WICKISER, <i>Louisiana State University, Baton Rouge, Louisiana</i>	
Index	161

This issue of the REVIEW was prepared by the Committee
on Language Arts and Fine Arts

DONALD D. DURRELL, *Chairman*, Boston University, Boston, Massachusetts

FREDERICK B. DAVIS, Hunter College, New York, New York

JAMES A. FITZGERALD, Fordham University, New York, New York

MARGARET LEE KEYSER, State University of Iowa, Iowa City, Iowa

FRANKLIN H. KNOWER, Ohio State University, Columbus, Ohio

with the assistance of

ELIZABETH R. BARLOW, State Teachers College, Worcester, Massachusetts

JOHN B. CARROLL, Harvard University, Cambridge, Massachusetts

WARREN S. FREEMAN, Boston University, Boston, Massachusetts

M. AGNELLA GUNN, Boston University, Boston, Massachusetts

S. EARLE RICHARDS, Harvard University, Cambridge, Massachusetts

RALPH L. WICKISER, Louisiana State University, Baton Rouge, Louisiana

FOREWORD

THIS issue of the REVIEW follows the general pattern in the language arts and fine arts cycle. Increased research activity justified a separate chapter in reading in high school and college. Since both music and foreign languages were omitted in the 1949 issue, the current chapters review research for a six-year period.

The usual short-term status studies and experiments using conventional measurement technics seem to predominate most current language arts research. Altho there are occasional ventures into new procedures, there is a need for increased ingenuity in the development of instruments of evaluation, a greater amount of pioneering in variety of approaches to effective teaching. Perhaps some sacrifice of objectivity may be necessary to gain greater validity in the analysis and evaluation of higher mental processes and affective qualities in language arts. New analytical measures are needed even in the more routine abilities such as comprehension, oral and written recall and expression, vocabulary development, sentence and paragraph structure, and perceptual abilities related to language growth. The evaluation of larger aspects of language arts teaching, perhaps thru closer cooperation between research centers and public schools, should indicate leads for improving practice. It seems strange that the constant output of textbooks is unaccompanied by research to discover their effect upon learning. New courses of study, new methods, new types of organization for instruction, and other ventures might be studied to discover whether or not children are better served by them.

There appears to be a greater duplication of effort in language arts research than is desirable. The large amount of research output buried in unpublished master's and doctoral studies makes it most unfortunate that the U. S. Office of Education has been unable in the past decade to publish the *Bibliographies of Research Studies in Education* which enabled research workers to keep in closer touch with areas of special interest in the various centers.

There are, however, evidences of pioneering in curriculum, materials, methods, and evaluative technics in each chapter of this REVIEW which should encourage a more venturesome era of language arts research.

DONALD D. DURRELL, *Chairman*

CHAPTER I

Research in Reading in the Elementary School

MARGARET LEE KEYSER

MANY articles and several professional books dealing with developmental reading at the elementary level have appeared since the last review of the research in April 1949 (17). Much of this literature dealt with (a) philosophy of the teaching of reading, (b) explanations of technics and methods, (c) descriptions of reading programs, (d) summaries of research, and (e) bibliographies.

Many of the contributions to the literature are of great value to workers in the field of reading, even tho they cannot be classified as research. Notable among these are reviews of the research such as those by Betts (4), Johnson (33), and Traxler (61), and bibliographies compiled by Gray (22, 23, 24), Dale (15), and Smith (55, 56). Several classroom teachers have reported descriptions of programs and technics which have proved effective and interesting. Reports from various conferences have also added to the literature.

Among the books which dealt with a specific aspect of instruction are those in the area of readiness contributed by Monroe (43) and Hildreth (28), and one dealing with word analysis by Gray (21). Professional books by Adams, Gray, and Reese (1), and Russell (51), gave emphasis to methods of instruction. Bond and Wagner (7) and Broom and others (10) revised previous editions. *The Forty-Eighth Yearbook* of the National Society for the Study of Education (44) related child development to many general problems in reading. In addition to these, Olson (45), and Breckenridge and Vincent (8) devoted considerable space to problems of learning in general, and reading specifically, in their books on child development. Brickman (9) reviewed books in the field of reading considered suitable for college texts.

The published research during this three-year period may be classified as (a) status studies, (b) investigations of the materials of instruction, (c) studies dealing with instruction and achievement, and (d) comparison and criticisms of various measuring instruments.

Status Studies

Reading was the primary factor for investigation in several of the status studies. Wheeler (63) used test results and observations to evaluate the teaching of reading in Grades I thru XII in a county in Alabama, and concluded that at no time was the yearly average gain as much as one grade, and that the amount of retardation increases in Grades IV thru VIII. Birch (5) reported a comparison of reading scores of British children in 1947 and 1949. These results show a sharp decrease in reading retardation.

An investigation is being made of the reading abilities of good and poor readers in Grades I thru XII in eight school systems in the state of New York. The two studies available followed similar procedure in selection of cases, and in identifying strengths and weaknesses in reading. Pupils were selected on the basis of teacher judgment and test results. The *Durrell Analysis of Reading Difficulty* was administered to all the subjects, and errors noted. Sheldon and Hatch (53) reported that for Grade III there were some reading errors and some strengths common to both good and poor readers. Hatch and Sheldon (26) concluded that for Grade IV both good and poor readers read more rapidly silently than orally, and that there were some errors common to both.

Among the status studies which included an analysis of reading was one reported by Chase (14), who investigated the subject preferences of 13,483 fifth-graders in New England and 2350 pupils in a southwestern city. Results showed: (a) that for both populations reading was the preferred subject, and that there was no significant difference between boys and girls for this preference; (b) only the group which made reading its first choice was significantly superior in achievement over the total fifth-grade group; and (c) in comparing high and low achievers, a significant difference in favor of high achievers was found for pupils who preferred reading. Tiegs (59) compared pupil achievement in the basic skills for 230,000 cases tested before and after 1945. Data based on results from *Stanford Achievement* and *Progressive Achievement* tests were included from 60 communities in seven states. After taking into account certain limitations, Tiegs concluded that, contrary to popular belief, achievement of pupils was not falling; in fact, there was a slight gain in achievement.

In a study of teacher awareness of listening, Wilt (64) also investigated the relative importance teachers place on four phases of language education. She reported that 62 percent of the teachers ranked reading as the most important phase. Teachers estimated that pupils spent 36 percent of school time in learning thru reading.

Instructional Materials

Investigations concerned with instructional materials dealt primarily with studies of vocabulary and content. Kearney (35) analyzed the vocabulary of 121 first-grade books published between 1930 and 1940. He counted the number of different words and the number of running words at each level. Listed also are the most common 200 words in each category. MacLatchy and Wardwell (37) also studied vocabulary of first readers published between 1930 and 1940, and listed the 150 most commonly used words in first-grade books, arranged according to appearance in primers and first readers, and according to parts of speech. Gentry (20) also compiled a common word list based on frequency of occurrence of words in preprimers. Two lists of preprimers were given, one according to percentage of words in the common word list, and one according to vocabulary

load. Vernon (62) studied seven series of books used in the Glasgow schools, and listed the total number of words, frequency of occurrence of each word, and the average repetition. Hughes and Cox (30, 31) compared the vocabulary of four basic readers with the spoken language of pupils of first grade. Children's language during the sharing period was recorded for 42 days over a period of three months. The language of the children and the vocabulary of readers were analyzed to determine the total number of words, average sentence length, and vocabulary differences according to six common categories. They substantiated previous findings: (a) that there is an extensive overlapping in vocabulary of readers and pupils' spoken language, and (b) that pupils use more words in speech than are used in readers. One of the great differences noted was in the vitality of children's language and that of books. The authors listed several implications for teachers and writers of textbooks. Read (50) obtained statistics on the number of pictures which appeared in 115 basic readers available in 1945. The author expressed approval of the quality of the pictures; he pointed out that as the level of the reader goes up, the pictures lose more and more importance, and that between Grades II and III the function of the picture changes.

Another study by Read (49) investigated the amount of science content of 121 basic readers available in 1946, counting pictures, text, outlines, and questions. Sixteen scientific topics appeared in the books, utilizing about 17 percent of the pages. The total number of pages devoted to science content was analyzed in relation to three types of presentation: (a) narrative, 9 percent; (b) exposition, 8 percent; (c) experiment, less than 1 percent. The writer cited omission of many important topics such as sound, safety, health, and lighting.

The reading difficulty of science textbooks was studied by Mallinson, Sturm, and Patton (38). The Flesch readability formula was applied to five series of science books for Grades IV, V, and VI, and the reading difficulty score for each book was listed. None of the books could be classified as easy, and in nine books, passages in earlier parts of books were more difficult than those in later portions. The books designed for use in Grade VI were only slightly difficult, the books for Grades IV and V were rather difficult. The writers gave no reason for selection of this particular technic for evaluation.

Instruction and Achievement

Almy (2) investigated children's experiences prior to first grade by interviewing both the children and the children's parents. Children's achievement in reading was evaluated by use of teacher's ratings, *Gates Primary Reading Tests*, and *Kuhlman-Anderson Test of Intelligence*. One hundred and six pupils attending half-day sessions comprised the population. She reported that a significant positive relationship existed between

success in beginning reading and the pupil's responses to opportunities for reading prior to first grade, and that interest in one kind of reading goes with interest in another kind of reading. A significant relationship was not found between beginning reading success and either mental age or occupational status of the parents.

Ilg and Ames (32) reported the results of a study of reading behavior of children up to 10 years of age. This was not a statistical study, but an observational one involving 50 cases up to five years of age and 30 cases up to 10 years of age. Readiness tests and oral reading tests were also administered at appropriate age levels. The responses of subjects were analyzed to determine components of a "reading gradient" which would present a step by step outline of the path which a child follows in his reactions to pictures and words on thru fluent reading, giving particular attention to order and errors. Sex differences in performance were also noted. The authors listed a reading gradient at various ages from 15 months to nine years, and reading errors by types at each age level from five and one-half thru nine years.

Taylor (58) compared reading of Scottish children with American children to determine the effect of training the Scottish children received during the first year of school. Using the *Metropolitan Readiness Test*, Scottish children and American children of the same chronological age were compared (5). The Scottish children had been in school one year. The reading achievements of Scottish children (C.A. 6) and American children (C.A. 7) were compared on the basis of results obtained from the *Metropolitan Achievement Test*. One hundred and fourteen Scottish children of average intelligence were used, and norms of the Metropolitan tests were used to represent average American scores. On the readiness test, a highly significant difference in favor of the Scottish group was found, and there was marked improvement of Scottish children in perception of similarities, copying, and number. A highly significant difference in favor of the Scottish group for reading achievement was also reported. The author infers that success in reading depends at least as much on training as on maturation. Tho these results can hardly be regarded as conclusive, they would appear to justify a more extensive investigation.

The relationship of perception of symbol orientation and early reading success was investigated by Potter (47) who concluded that guidance in observation which will cause pupils to note details in a sequence pattern is required if children are to improve in their ability to discriminate between confusingly similar words. She added that ability to avoid mirror errors is a crucial ability for early reading success.

On the basis of findings of six studies dealing with children's ability to read diagrammatic symbols, Malter (39) concluded that interpretation of diagrammatic symbols is an acquired skill, and thus more emphasis might be placed on the meaning of these symbols thruout the grades.

Fay (19) tested extensively 384 pupils at the sixth-grade level to de-

termine the relationship between five specific reading skills and success in social studies, science, and arithmetic. Data were analyzed to determine differences for each reading skill in each area of achievement for both inferior and superior readers. Superior readers were significantly better than inferior readers for four reading skills in the achievement area of social studies and for two reading skills in science. In the relationship between the five reading skills and success in arithmetic, no significant differences were evident between superior readers and inferior readers. From these findings Fay implies that achievement should be considered in terms of specific areas, and that reading should be thought of as a composite of many specific skills rather than a generalized ability.

A year's intensive work on the study skills for 264 pupils in Grades IV thru VIII was evaluated by Howell (29). In this school, the departmental system was used, and grades were divided into fast and slow sections on the basis of intelligence, achievement, and teacher opinion. The *Iowa Every Pupil Tests of Basic Skills* were used both for diagnosis and measurement of achievement. Units of work were taught by the librarian during the weekly library period and the teacher correlated unit plans with the curriculum. On initial testing, most of the fast groups had acquired skills even tho they had not been emphasized, but slow groups were about a year below grade norms. At the end of the testing period, the slow groups showed the greatest improvement, and many individual cases showed remarkable gains.

The reports of two investigations of the relationship between speed of reading and comprehension pointed out that this relationship is dependent upon other factors. Shores and Husbands (54) obtained three rate scores for 90 pupils in Grades IV, V, and VI, using a test constructed by the authors. They found little or no relationship between any of the three measures of speed of reading and comprehension. They concluded that the relationship between speed of reading and comprehension depends to a large extent upon purpose set for reading and the nature of the reading material. Using 330 fifth-grade pupils, Carlson (12) tested speed of reading at different levels of difficulty and with varying continuity of context. Data were analyzed for fast and slow readers, and for three categories of intelligence. He concluded that accuracy of comprehension was dependent upon levels of intelligence, purposes for reading, levels of difficulty of materials, opportunities for referral in answering comprehension questions, and continuity of context. At the upper levels of intelligence the rapid readers were the more efficient, but at middle and lower levels of intelligence the slow readers tended to be the better readers.

There has been much conjecture about whether radio programs have any effect on ability of pupils to concentrate on their studies in order to acquire knowledge and information. Mitchell (41) determined the favorite musical program and favorite variety program of 91 sixth-grade pupils by use of a questionnaire. These programs were recorded and played during the testing periods. A silent reading test was administered without a

program, with a musical program, and with a variety program. The reading achievement of the whole group was adversely affected by the variety program, but not by the musical program. Reading achievement of pupils with an IQ above 100 was not adversely affected by the variety program, and showed a significant gain during the musical program.

Edmiston and Benfer (18) investigated the relationship between group achievement and ranges of abilities within groups, using 462 pupils in Grades V and VI. Groups with wide range of intelligence (41.24 IQ points) and narrow range of intelligence (29 IQ points) were established. There were 233 pupils in each group, with 104 IQ as average intelligence for each group. Reading achievement was measured at six-month intervals, and differences computed. A critical ratio of 4.33 favored the wide-range group.

Reported in a single study was (a) a comparison of the two most popular methods of teaching in Glasgow, and (b) the effect of socio-economic status on reading achievement at beginning stages. McLaren (36) described the methods of teaching and establishing socio-economic status. Achievement was measured by an author-constructed picture and word comprehension test. There was no significant difference in achievement for pupils taught by the two different methods. However, socio-economic status affected reading achievement at the early levels, but there was overlapping in scores for various groups.

Anderson (3) investigated general and specific vocabulary ability to determine the relationship between vocabulary and a pupil's group status, and found vocabulary could not be used to predict individual status at either the sixth- or ninth-grade level. In a much more extensive study, Mitchell (42) investigated the relationship between amount of reading children do and the social acceptability of 873 sixth-grade children. Readership and social acceptability were measured from the point of view of parents, teachers, and children. A "guess who" type of test gave pupil opinions concerning reading and social acceptability of children. Both teachers and parents indicated on a behavior rating scale the children's social acceptability, and on an information blank, the children's readership. Numerical values were assigned to derived scores. Intercorrelation coefficients for the 15 variables were computed. Mitchell concluded that extensive reading is a significant factor in children's social acceptance. Whether or not it is a causal factor was not determined.

That girls are superior to boys in reading achievement in elementary school is generally accepted. This generalization is substantiated in an investigation by Carroll (13) who found significant differences in favor of girls for reading achievement and visual discrimination. Ilg and Ames (32) reported also that girls as a group appear to be advanced over boys as a group at every stage of the reading gradient. A trend toward more equal achievement of girls and boys is noted in several studies. Potter (47) noted no significant sex differences in directional drawing, perceptual discrimination, or reading. No significant differences in boys and girls

scores on reading comprehension or word recognition was reported by McLaren (36). In a study of children's voluntary reading, Dunlop (16) reported that girls read more than boys, but Wollner (65) reported no sex differences in voluntary reading activity. Butterworth and Thompson (11) found pronounced sex differences in children's preferences for comic books.

Investigations of recreational reading can be classified into studies of tastes and interests, attitudes, and those concerned with comics. Wollner (65) reported a study of voluntary reading of eighth-grade pupils of high socio-economic status, and of average and superior intelligence. For each pupil, extensive data concerning reading ability, tastes, interests and habits, school history, personal data and home information, were available or obtained. Data were analyzed to obtain general trends, but individual pupils were studied to determine deviations from generally established patterns. Positive relationships were found between attitudes and reading activities, and intelligence and reading, but detailed study showed many and extreme deviations. She concluded that correlations obtained in this study are too low to permit safe generalizations, and the study of individual cases shows the voluntary reading of an individual to be unique.

Dunlop (16) investigated children's leisure reading thru studying book withdrawals and by interviewing 100 boys and girls ranging in age from 7 to 17 years. Analysis of data revealed that children exercise freedom of choice in leisure reading, and read more fiction than nonfiction. Years 12 and 13 are the peak years for reading.

In connection with school appraisal, a lack of supplementary reading materials was noted. The question arose as to how much the books would be used if made available. Mauck and Swenson (40) reported the use made of 171 books when made available to 364 pupils in Grades IV thru XII. The reading was entirely voluntary, and no requirements related to the reading were made. In the three weeks the books were available, the average number of books read was about six, and lower-grade pupils read more than upper-grade pupils.

Six- and seven-year-old children's acquaintance with the vocabulary of comics was studied by Sister Jude (34). She compared the speaking vocabulary of children and the infant reader vocabulary with the vocabulary of comics popular with Scottish pupils. She reported the percentage of irregularities of language in comics is quite small (6 percent) and that there was a relatively high overlap with words in readers and speaking vocabulary.

Butterworth and Thompson (11) investigated age-grade and sex differences trends of children's preferences for comics. In Grades I thru XII, 1256 pupils listed books liked and disliked. From this preference list, 25 books were selected for study to determine the relative popularity of books, and relationship of popularity of books to content factors. Information concerning frequency and volume of comic book reading was obtained from publishers' sales reports, and questionnaires submitted to the chil-

dren. There were definite age-grade trends in preferences and also a fairly consistent downward trend from grade to grade in reading volume. Peak reading and buying volume seems to occur at Grade VI.

Only one study of reading for the bright child was found. Shearer and Fannin (52) describe an enriched program for pupils in Grades V and VI which was carried out for eight months. Unmeasurable outcomes, such as knowledge of literary forms and terms, growth in related fields of reading, science, travel and history, and appreciation of the world's literature, were considered to be of great value. Measurable gains by standardized tests, however, appeared low.

Measurement

Research in the area of measurement dealt with comparisons, criticisms of tests, and uses of test results. Traxler (60) made a critical survey of 28 silent reading tests which could be used as diagnostic measures. If a test yielded three or more separate scores it was considered diagnostic in nature. Forty-nine types of reading ability were tested with the 28 tests, which Traxler judged to be fairly reliable, valid, and useful instruments. He stated that the diagnostician is more important than the test, and that no one test thoroly measures all kinds of reading ability. Pflieger (46) compared the scores of 301 eighth-grade pupils and found that pupils ranked 1.1 grades higher on the *Stanford Achievement Test* than on the *Iowa Silent Reading Test*, but that both tests ranked pupils in the same order. In comparing the oral reading tests of the *Durrell Analysis of Reading Difficulty* and *Gray's Oral Check Test*, Spache (57) concluded that both tests seem fairly well constructed. He includes suggestions for use of the Gray and Durrell tests so that results will be directly comparable. Bond and Fay (6) compared performance of good and poor readers on the individual items of both forms of the *Stanford-Binet Scale* using 50 cases in Grades IV, V, and VI.

In using the *Lee-Clark Reading Readiness Test* and experienced teachers' opinions Henig (27) found both to have a substantial degree of success in predicting the outcome of children's first year of reading when teachers' marks are used as indicators of success in reading performance.

Differences in prediction of success for kindergarten and nonkindergarten groups were investigated by Pratt (48). He reported a significant difference in favor of the kindergarten group for both the readiness test and the reading achievement test results, even tho there was no significant difference in mental age of the groups.

Greene and Woodruff (25) described a technic for increasing the efficiency of supervision. Using test results, a remedial instruction program was planned, and the supervisor directed her attention to improving instruction in specific areas. They reported twice as much progress in reading occurred as might have been expected for the six-month experimental period.

Needed Research

The research in elementary-school reading was very meager in several areas. There were few reports of investigations dealing with various aspects of reading for special groups, such as superior children. The studies concerned with vocabulary were primarily counts of different words, parts of speech, and frequency of occurrence of words, rather than giving attention to problems of meaning and sight vocabulary. Technics of instruction and comparison of various methods of teaching were also neglected areas.

The increasing number of studies which found no differences in boys' and girls' performance in reading calls attention to the need for more research in this area. If the achievement is now more nearly equal for the sexes, changes in aspects of instruction and factors influencing this change in performance should be identified.

Reports of the superior reading achievement of Scottish children points to the need for more studies of the maturation factors and aspects of training which produce success in beginning reading activities. More detailed descriptions of the program of instruction in reading for Scottish children and a comparison of the emphasis given to various areas of instruction may give some insight into this superior achievement.

How to make available more of the unpublished research is a continuing problem.

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CHAPTER II

Research in Reading in High School and College

FREDERICK B. DAVIS

Introduction

RESEARCH studies in reading at the high-school and college levels continue to appear in large numbers. Gray (34, 35) discussed seven contributions of research in the field of reading and summarized significant findings in his article on reading in the new *Encyclopedia of Educational Research*. Durrell (19) outlined recent trends in the teaching of reading. Witty (118) published a new manual for teachers and others in the field.

Bibliographical Materials

Gray (36, 37, 38) continued his annual summaries of reading investigations. Traxler (106) surveyed important research studies in reading made in the United States, stressing work done since 1930. The April 1949 issue of the REVIEW OF EDUCATIONAL RESEARCH included chapters on "Research in the Teaching of Literature" by Burton (9), "Research in Reading" by Durrell and Murphy (20), and "Visual and Related Factors in Reading" by Eames (24). Dale (16) prepared a *Bibliography of Vocabulary Studies* while Husbands and Shores (48) summarized research relating to the nature of reading ability and drew implications from the data regarding the measurement of this ability. Hildreth (43) presented a long bibliographical review of the literature relating to the development and training of hand dominance.

Training Studies

Descriptions of Diagnostic and Teaching Methods

The procedures followed in a number of remedial centers and reading clinics have been described in the literature. Surveys of procedures currently in use were made by sending out questionnaires despite the known hazards of this technic.

Boyd and Schwiering (7) reported data obtained from 76 replies to 200 questionnaires sent to psychological clinics, Barbe (5) presented information from questionnaires sent to colleges regarding their programs for helping deficient readers, and Brink and Witty (8, 120) analyzed the responses of 109 school systems out of 500 to whom questionnaires were sent concerning the objectives and nature of remedial instruction in secondary schools.

Sechriest (87), Swenby and Zielsdorf (95), and Jones (52) described remedial programs in secondary schools with which they are associated; the work of the Reading Laboratory at Howard College was outlined (86), reflecting an emphasis on speed of reading. Persons and Grumbly (76) suggested that clients in reading clinics be given group guidance as part of their program of work. Blayne (6) recommended the use of student-made graphs of progress in speed and comprehension. Certain of the data reported by him should be interpreted with caution since he used scores expressed as percentiles in computing product-moment correlations.

Results of Remedial Programs

Data showing the effect of remedial programs on high-school and college students were presented by Baker (4), Charles (13), Gunzburg (40), McGinnis (65), Redmount (80), Schleich (85), Staton (92), Trimmer and Corman (109), Westover and Miller (113), and Williams (117). Watts (111) reported the gains in reading resulting from a rather unusual remedial program during which the students were given case studies of various sorts as reading exercises.

Robinson (81) advocated the use of improvement in college grades as a criterion for judging the effectiveness of remedial work and presented data showing that Yale students who had remedial training obtained better grades than men of similar ability who had not taken the remedial work. McGinnis (64) reported similar data with students at the Western Michigan State College. Altho students in these experiments were matched with respect to ability, they were not matched with respect to motivation since remedial work was optional. Hence, conclusions about the effectiveness of remedial training for improving college grades should be drawn with great caution.

Murphy and Davis (71) provided evidence that all studies reporting gains as a result of remedial work should be regarded skeptically since common methodological errors lead to false indications of progress. Tests used in measuring progress should be corrected for chance success and scores should be corrected for regression to the population mean whenever the remedial group is selected because of low test scores.

Eye-Movement Training

The use of visual aids, such as mechanical devices, for remedial work in reading was discussed by Holland (44), Orent (74), and Speer (91). Three valuable studies in this area were made by Freeburne (30), Glock (31), and Lewis (58). Freeburne summarized a doctoral dissertation in which he found that training in perceptual speed and span with a flash-meter did not cause greater improvement in the reading ability of college students than the mere taking of certain perceptual tests. It appears from Glock's study that remedial instruction designed specifically to train eye

movements is generally no more effective than two other types of remedial instruction. No single method worked best for all teachers involved in the study. Lewis showed that when two groups of adults, matched case by case on initial reading speed, were trained by two different methods, the group trained in comprehension made a gain in *speed* of reading almost three times that of the group trained with eye-movement exercises.

Physical Factors Related to Reading

Typography

Two additional studies on the relation of typography to reading were reported from the Minnesota Psychology Department by Tinker (98) and Tinker and Paterson (100). They suggest that nine-point type be set in lines 14 to 30 picas in length with one to four points of lead. North and Jenkins (72) experimented with what they call spaced-unit typography and found it superior to either conventional or square-span typography. Burt (10) reviewed research on the attainment of maximum legibility.

Ocular and Other Physical Factors

Eames (21) studied the effect of correcting various degrees of refractive error and found that speed of object perception and speed of word perception tends to increase after correction. In general, slight amounts of farsightedness justify correction more than equal amounts of nearsightedness. He also pointed out that disease or physical defects were found to be 21 percent more frequent among 875 children who were considered to be failing than among 486 children considered to be succeeding in reading (22). Data that led Tinker (99) to believe that blink rate is not a valid criterion of ease of seeing were reported. Robinson (82) discovered that the *Binocular Reading Test* identifies eye dominance when suppression (of vision in one eye) occurs in binocular reading. She suggested that *Gray's Oral Reading Check Tests* do not provide reliable evidence of visual defects. Joslin (53) discussed physical factors in reading.

Ewers (27) reported the correlations of 43 auditory tests with scores from the *Iowa Silent Reading Test* and *Gray's Oral Paragraphs Test*. The coefficients spread over a surprising range. In a sampling of children six to 16 years of age, Kendall (54) found no significant relation between retardation in reading and difficulty in visual-motor integration. Strother (94) recorded muscle-action potentials during the reading of materials expressive of four basic emotions.

Studies of Readability

Three studies employing Flesch readability formulas were published during the period covered by this review. Hayes, Jenkins, and Walker (42)

studied the reliability of the formulas and found it to be good for word and sentence length and for reading ease but to be rather low for personal sentences, and thus human interest. Farr (28) recommended the formulas for preparing employee handbooks and Lyman (61) reported that readership of material written with Flesch counts of 1.5 and 3.5 was greater for the easier version. Lorge and Kruglov (60) concluded that the structural elements of pupils' compositions were not related significantly to verbal (or general) intelligence when educational level was held constant and the range of talent was small. An excellent evaluation of readability formulas was provided by Lorge (59).

An interesting study of five factors that account for starting readership by men of articles in the *Saturday Evening Post* was made by Perloff (75).

Reader Interests

A few experimental studies of the reading preferences and interests of junior high-school and high-school pupils should be mentioned: Norvell's book (73), Wollner's doctoral dissertation (121), and articles by McCarty (62), Stewart (93), Shatter (89), and Powell (79). Jones (51) investigated the reading interests of students in a small southern college and found that only a small proportion of the students read magazines or papers written for educated adults. However, the proportion seems to increase from year to year thru the four undergraduate years of training.

Knepp (55) reported on the reading choices of high-school biology students, and Gunzburg (41) discovered that subnormal boys prefer to read about familiar scenes and places rather than about historical or foreign events.

Investigating the effects of television on leisure-time reading, Coffin (14) found that in the spring of 1948 the number of hours of reading per family per week was 21.3 in homes without television and 17.5 in similar kinds of homes with television. There was no difference in the kinds of reading done in the two groups of homes.

Comic Books

Two studies dealt with comics and juvenile delinquency. Thrasher (96) examined critically the claims of Wertham regarding the role of comics in causing juvenile delinquency and deplored the lack of scientific objectivity and thoroughness that seemed to him to characterize Wertham's writings on this topic. Hoult (45) established significant differences between two matched groups of delinquent and nondelinquent children in the Los Angeles area with respect to the reading of comic books. Delinquents read significantly more "blood-and-thunder" comics, of the type commonly regarded as harmful, than did nondelinquents.

Hutchinson (49) reported on the use of *Puck—the Comic Weekly* as instructional material in classrooms. Mitchell (68) constructed a vocabu-

lary test based on 44 words contained in comic strips and found that few pupils in Grades VII thru XII knew their meanings. The mean number answered correctly ranged from 8.4 in Grade VII to 29 in Grade XII.

Zorbaugh (122) discussed the results of a study designed to determine the opinions of adults with respect to comics for children. In general, comics are approved, but their faults have apparently been noted and discrimination in selecting them is exercised.

Personality Factors and Reading

A helpful review of research studies on the relation of personality difficulties to the reading process was made by Russell (84). Witty (119) summarized the evidence pertaining to the relationship of emotional disorders and reading difficulties and concluded that the causative factors of reading disability are complex and that emotional disorders are often, tho apparently not always, involved.

Ellis (25) conducted a follow-up study of 100 cases diagnosed as reading disability and found that improvement in ability to read depended on the amount and quality of remedial tutoring provided, the subject's intelligence, the severity of emotional disturbance, and the subject's age at the time of diagnosis. Older children improved more than younger children. Potter (78) concluded that reading therapy uses limits in much the same way as other types of therapy, but that "it differs from them in having specific as well as general aims for its clients, in using reading as content about which to structure its processes, and in making use of a special milieu to facilitate these processes."

Carter (12) suggested a possible means of differentiating between poor readers who need psychotherapy and those who need merely remedial tutoring. Feifel (29) obtained data which suggest to him that the scoring systems used for vocabulary tests are not sensitive enough to reflect qualitative changes resulting from psychosis. He presented a method for scoring qualitatively the first 10 words in the vocabulary test of Form L of the Stanford-Binet scales.

Oral Reading

Artley (3) discussed the relationships between speech difficulties and deficiency in reading, and Eames (23) prepared a short summary of selected references pertaining to this area.

Dearborn, Johnston, and Carmichael (18) found high positive correlations between comprehension in silent reading and ability to locate specific words in the text that the author considered worthy of special stress. These data link degree of comprehension and meaningfulness of oral presentation. Other data gathered and discussed by Anderson (2) and Wells (112) indicate that mechanical accuracy of oral reading is not significantly related to measures of reading comprehension or scholastic

aptitude. MacLachy (66) discussed the use of tests of oral reading for appraising progress.

Seedorf (88) studied the problem of obtaining reliable measures of individual ability to interpret literature orally and concluded that the use of 40 or more judges was desirable for this purpose.

Comprehension in Reading

A survey of the literature pertaining to comprehension in reading was made by Johnson (50), who summarized and interpreted studies of the skills and abilities involved in reading. An ambitious investigation of certain factors associated with comprehension was reported in Hunt's doctoral dissertation (46). Hunt studied six skills proposed for measurement by Davis and found them to be highly correlated. Buswell (11) conducted an experiment to determine whether rate of silent reading varies directly with rate of thinking provided that perceptual factors in reading are held constant. The reviewer, using Buswell's data, found that a correlation of .59 between the best-weighted combination of the rate-of-reading and rate-of-thinking tests drop to .53 when four perceptual skills are held constant by partial correlation technics. These data indicate that rate of thinking and rate of silent reading, as both were measured in this study, are by no means closely related and are even less so than usual when certain perceptual factors are held constant.

Crossen (15) reported an interesting study showing that pupils' attitudes do have significant effects on their ability to comprehend material that arouses emotional feelings. Davis (17) stated again in nontechnical terms the main results of his factorial studies of comprehension in reading. Griffin (39) outlined a preliminary study of comprehension of news stories and Godfrey (32) recounted the difficulties that college students have in understanding literary writing and urged that emphasis be placed on developing the ability to read critically.

A factorial analysis of reading made by Anderson (1) led him to conclude that comprehension variance is 57.6 percent vocabulary, 13.2 percent intelligence, and 29.2 percent "analysis-synthesis ability." The last component is characterized by positive loadings in grammar and spelling tests and negative loadings in sentence structure and punctuation skill.

Studies of Reading Tests

A new test of auditory comprehension was described by Spache (90) and a new test of poetry discrimination by Eppel (26). Traxler (102, 104, 105) and Townsend (101) reported the reliability coefficients and inter-correlations of several reading-test scores, using small, highly selected samples. Traxler (103) also reported interesting data regarding the validity of three reading tests with ratings by teachers used as the criterion. The Cooperative Speed-of-Comprehension score (not to be confused with ordi-

nary speed-of-reading-words scores) showed markedly higher correlation with teachers' ratings of "how well pupils read material connected with their class work" than did the speed scores derived from the Iowa and Diagnostic reading tests. The vocabulary and total scores derived from the Cooperative and Iowa tests showed insignificantly different correlations with the teachers' ratings when the reviewer applied an exact variance-ratio test of the significance of the differences (a test developed originally by Hotelling and conveniently available on pages 54 and 87 of *Statistical Methods in Research* by Palmer O. Johnson). However, the validity of the Cooperative total reading score was the higher in the sample tested.

Tiegs (97) and Gray (33) showed that school children tend to achieve higher scores in reading at present than they used to in the past. Pflieger (77) reported that grade scores on the Metropolitan and Stanford reading tests are not exactly comparable—a result to be expected because of differences in the methods used to establish norms for these tests. Wheeler (114) noted that children in Morgan County, Alabama, generally fall below the national norms, a common situation in the South.

A follow-up study, using successive different forms of the *Cooperative Reading Comprehension Test* each year for six years, was reported by Traxler (104). He attributed irregularities in individual growth curves partly to errors of measurement and partly to the inner maturing of the pupils. In the reviewer's judgment, the importance of variations in pupil motivation should not be underestimated. Traxler (107) also studied sex differences on vocabulary-test scores and found none on tests of general vocabulary. Girls tended to do significantly better than boys on the vocabulary of English grammar and literature. Vernon (110) presented correlations between difficulty levels of vocabulary items and their frequencies in the *Teachers Word Book*. The coefficients range from .30 to .78, the correlations tending to be higher in samples of difficult words.

Relationships between reading-test scores and aptitude measures were obtained by Triggs (108), Wheeler (115), and Wheeler and Wheeler (116). Rundle (83) published data indicating that no correlation exists between speed of reading words and speed of typing. McClanahan and Morgan (63) investigated the utility of the *Nelson-Denny Reading Test* for predicting first-year engineering grades. Moser and Muirhead (69) studied the relationships between scores on the *Tests of General Educational Development* and grade last completed, using a sample of 1582 enlisted men in the army. The correlations are close to zero. Murphy and Davis (71) reported a significant, tho small, negative correlation between average freshman grades at George Peabody College for Teachers and ability to reason in reading, when vocabulary level is held constant.

Miscellaneous Studies

In an unusually interesting study, Krise (56) found that graduate students can be induced to make reversals in reading unfamiliar symbols.

The implications regarding theories advanced to explain reversals in reading among children were considered. Krise offered a simple explanation for reversals that is consonant with his data.

Hunt and Sheldon (47) defined certain characteristics of "good" and "poor" readers with IQ's of 90 or more. LaGrone and Barratt (57) conducted an experiment to determine whether relationships that had been previously noted between accuracy of perception in peripheral vision and intellectual abilities are partially a function of dextrality, and thus not wholly accountable for on the basis of habitual tendencies or sets acquired as a result of practice in reading. The authors conclude that they are. Experiments reported by Michael, Rosenthal, and DeCamp (67) on the effect of author prestige on the preferences of 120 Princeton students indicated that the literary attitudes of the group appeared to depend *not* on the prestige of the writers but rather on the individual's own tastes. These findings differ from those sometimes reported for experiments of this type.

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CHAPTER III

Research in Spelling and Handwriting

JAMES A. FITZGERALD

Spelling

RESEARCH in spelling for the three years since October 1948 indicated a continued consideration of word selection and grade placement, an increased concern about methods of teaching spelling, and some attention to the integration of spelling with the other language arts.

The most complete survey of spelling research published in this period was Horn's invaluable summary of investigations relating to curriculums, methods, and testing reported in the revised edition of the *Encyclopedia of Educational Research* (14). The well-selected references compiled yearly in *Elementary School Journal* and *School Review* supplemented the basic triennial summaries in the REVIEW by Breed, Horn, McKee, Smith, Knower, and Stauffer.

Selection and Gradation of Words

The search for valid spelling words was continued in this period. The evaluation by Hildreth (13) of samples of words in the third and fourth thousand ranges of widely-known adult vocabulary lists and of words in two tabulations of vocabularies of spellers, one of them completed since 1940 (4), indicated that from 56 to 71 percent of these words fell beyond the most common 2800-2900 words in Rinsland's *A Basic Vocabulary of Elementary School Children*.

After reviewing vocabulary research, Fitzgerald (8) used results of important pertinent investigations of child letter writing, composition writing, and adult letter writing to compile a list of 2650 words for a basic life spelling vocabulary. He reported the frequency, credit, or occurrence of each word in the basic writing vocabularies of Horn, Rinsland, McKee, Breed, Dolch, Brittain, and Fitzgerald and presented data which indicated the high validity of the basic life vocabulary. Easily identified in this basic vocabulary are three smaller lists: (a) a permanently useful core of 449 words for beginners and the retarded, which with their repetitions account for more than 76 percent of running writing basic to the Rinsland list; (b) a second core of words highly useful in child and adult writing; and (c) a list of 473 common derivatives formed by adding "s," "d," "ed," or "ing" to base words of the list.

Word selection based on child needs was attempted by Hanson (11). Second-grade children selected words they needed in writing in a social studies unit centered on the home and studied them individually and in a

directed spelling period. A high overlap with basic vocabulary lists and better than average progress in spelling achievement was reported.

Betts (4) tabulated grade placement data on 8652 words found in eight well-known spelling sets published since 1939. He reported agreement on the grade placement of 65 of the 483 words common to the eight sets. Dickerson's report (6) of a study by Johnson showed variance in word selection and grade placement in 18 spelling sets quite comparable to that shown by Betts.

Increased consideration was evidenced among curriculum planners of city and state departments (20, 21, 22) concerning the selection of words, their grade placement, integration of spelling in the language arts, and methods of teaching spelling to meet the needs of children of varying abilities.

Spelling Errors and Difficulty

Because the persistency of misspelling of difficult words has been a problem for decades, the findings of Swenson and Caldwell (28) are interesting and important. In 680 letters which comprised 116,416 running words written by pupils in Grades IV to XII, they reported an almost continuous improvement in spelling of spontaneous writing from grade to grade. The percentage of spelling errors ranged from about 10 percent by children of Grades IV and V to less than 1 percent by pupils of Grades XI and XII. Of the 44 most frequently misspelled words, which accounted for 28 percent of the misspellings in these letters, 35 are included in the 222 spelling demons (8).

Fitzgerald (8) presented data on 222 demons in life letters by children of Grades III to VI and in school writing by children of Grade II. These 222 repeatedly misspelled words accounted for approximately 55 percent of the spelling errors and 61 percent of the 682,082 running words of the basic data. Every one of the 222 is in the Rinsland vocabulary, 219 in his most common 2000 words. The 100 words most misspelled in each grade and in the five grades were identified for curriculum builders. Additional evidence was supplied in Johnson's list (17) of difficult words tabulated from the creative writing of 14,643 children of Grades III to VIII in 199 school systems of the 48 states. Sixty-two of these 99 hard words (*it's* was listed twice) published were included in the 222 spelling demons.

Doyle (7) on the basis of scores made in Grades II thru VIII on two tests, one standardized in 1918 and the other at "the present time," concluded that children of the former period were better spellers than those of 1949. In appraising his findings, the comparative validity of the tests and the fact that the 1949 children of all grades scored higher on the average than the norms of either test should be considered. Ayer (2) tested 40,000 high-school pupils in 48 states and reported great variation in spelling proficiency in different high schools and among pupils of the same grade in school. He found a considerable falling-off of ability to spell in

recent years by pupils of Grade IX. Hageman and Laslett (10) reported that the mean number of words misspelled by 204 high-school pupils was 80 of the 320 presented in the *Sixteen Spelling Scales*. The spelling proficiency improved from the freshman to the senior year, and pupils with the higher IQ's spelled better than those with the lower IQ's.

Methods of Teaching Spelling

Wilson (31) traced the development of spelling from 1647 to 1840, from 1840 to 1900, and from 1900 to the present. The "alphabetical" methods of teaching spelling and reading in the first period and the "word" and "phonic" methods in the second period were described. Research results since 1900 supported the following conclusions: (a) spelling words should be presented in lists rather than in context; (b) spelling should be studied systematically; (c) the test-study method of teaching was found superior to the study-test method. Trends toward individualized teaching of spelling and to spelling integration into the whole elementary curriculum were reported.

In *The Teaching of Spelling* Fitzgerald (9) utilized research findings in presenting procedures for: (a) developing spelling curriculums (b) appraising materials, (c) planning programs for groups and individuals of varying abilities, (d) enriching learning, (e) organizing testing and reviews, (f) enhancing word power, (g) facilitating word usage, and (h) suggesting technics for diagnosis and remedial instruction.

Bandle (3) developed well-planned and well-motivated group cooperative test-study procedures of teaching spelling to 132 children in Grades III, IV, V, and VI, in which children who received perfect scores on Monday or Wednesday tests helped other children, one by one, to master their difficult words. Consistent improvement reported thruout the experiment was attributed principally to the pretest, correction of tests, and enthusiastic group cooperation. Stillberger (27) motivated 36 pupils in a sixth-grade class to study spelling cooperatively for a year. The children developed a spelling conscience, improved their spelling scores in final tests, and increased their efficiency in using words in writing by means of an effective test-study procedure, well-timed remedial work in spelling and handwriting, careful proofreading of written work, and vigorous activity in mastering difficult words.

Shubik (25) directed two groups of 81 third-grade children, matched in intelligence, achievement, and spelling ability, in studying 115 spelling demons in well-planned programs for seven weeks. Both groups concentrated on meaning, pronunciation, visualization, recall, test results, and writing words correctly. Each child of the test-study group studied the words he misspelled in the first and final tests of the week and in review tests two weeks later. The study-test group studied all words before testing, and their hard words after final and review tests. Children of both groups used a five-step method of learning to spell new, review, and hard words.

Average learning gains by the test-study children were significantly superior to those of the study-test children.

Templin (29) matched 78 deaf pupils in Grades V to XII with 78 hard of hearing pupils and with the same number of normal hearing pupils in intelligence, sex, age, and grade placement. She found that the deaf made about one-half as many spelling errors as the hard of hearing and approximately one-third as many spelling mistakes as the normal pupils in writing explanations of common physical phenomena.

Nichols (23) constructed two forms of a test designed to discover specific spelling disabilities of children. She used one form of the test before teaching a remedial group for four months. She used the second form after teaching and reported that results on the five subtests—proofreading, word meaning, handwriting, visual discrimination, and auditory discrimination—reflected changes in spelling proficiency.

Kyte (19) grouped children in Grades III thru VI on results of spelling and intelligence tests and previous spelling records. Words were assigned on the bases of needs and of difficulties for the various ability groups. Regroupings were made after periods of from five to seven weeks on the basis of test results. Appraisal during the year-and-a-half period showed that spelling progress was affected adversely by low intelligence, prolonged absence due to illness, and emotional disturbances.

Spelling: A Facet of Language

Keyser (18) used a rotation technic to study the amount of incidental learning of spelling which occurred in four types of word presentation in reading. Eighty carefully selected words which had not been taught were embedded in eight well-written stories which were read by half of a group of 332 children in Grades IV and V; 80 carefully selected synonyms of these words were substituted for the original words in these stories and presented similarly to the other half of the children. Tests on the 160 words indicated that incidental spelling learnings of words presented in reading were highly significant statistically when the teaching was done thru word analysis or oral presentation with meanings explained, but were not significant when the words were presented in context only or when a glossary presentation was made.

By testing 7454 children, representative of the school population of Iowa, Sparrow (26) determined the coefficients of correlations between reading vocabulary and spelling to be .68, .68, .59, .60, .59, and .56 and between reading comprehension and spelling to be .66, .59, .51, .56, .57, and .54 respectively for Grades III to VIII. As probably contributing to the relationship, she reported the following factors: (a) general intelligence, (b) overlapping vocabularies, (c) understanding, (d) incidental learning, (e) word perception, (f) interest and effort, (g) phonetic content of words, and (h) ability to generalize. Interrelationships of the language arts were found also in the following study. Two hundred and fifty-nine

retarded pupils in Grades IV, V, and VI were tested by Hudson and Toler (15) before and after a four-month period of carefully planned teaching to increase auditory and visual discrimination patterns of words. Results indicated improvement in spelling efficiency far beyond that which could be attributed to ordinary incidental learning.

Handwriting

The article signed by West and Freeman (30) in the *Encyclopedia of Educational Research* suggested the need for further studies in problems of handwriting. Selected references in the October issues of *Elementary School Journal* were helpful in appraising the investigations carried on in handwriting.

Hildreth (12) surveyed 258 sources on hand dominance and presented many conclusions and recommendations helpful to teachers of handwriting on the characteristics of handedness, the developmental tendencies of handedness, origins of handedness and lateral dominance, developmental problems associated with handedness, and training of handedness. Ames (1) found by means of a cinemanalysis of the writing behavior of 179 children from 36 months to 10 years of age that the preferred place of writing moved quite consistently thruout the age levels from the bottom right, to the center, then to the top center, and finally to the top left of the paper.

Investigations of handwriting of adults suggest possibilities for study on other levels. Rollstin (24) found that the average quality of handwriting of 250 college freshmen was 45.32 and the range was from 20 to 90 on the *Ayres Scale*. The letters *r*, *n*, *e*, *a*, and *v* accounted for 48 percent of the illegibilities. The largest number of illegibilities in the capital letters was made in writing the letter *I*. Approximately 22 percent of 2423 small *a*'s analyzed were considered acceptable and 78 percent were judged to be more or less illegible.

The handwriting of 103 college students—from freshman to graduate rank—was studied by Irish (16) by means of an Interval Meter. Her results showed a lack of rhythmic pattern in handwriting. The individual differences in amount of time required for writing a letter of the alphabet were very great, but there was little difference in the amount of time taken to write various letters singly by individuals. Letters in combination and in sequence required a shorter time for writing than single letters. There seemed to be greater uniformity of rhythm in writing words than single letters.

A photographic method suitable for analyzing letter forms and strokes in handwriting was reported by Boraas (5). His analysis of the writing by 12 graduate students of the capitals *F*, *G*, and *T* indicated: (a) straight lines were written most rapidly and with little deterioration; (b) curved lines deteriorated into straight lines; (c) speed changes were the cause of

erratic writing; (d) simple forms of letters made in continuous free flowing lines were found to be preferable to complex forms which involved many pauses, sharp changes in directions, and air movements.

Summary

Research results in this three-year period on word selection, gradation, and spelling difficulty should be highly valuable in curriculum planning. Evidence from studies of method emphasized the importance of a well-planned program systematically carried out and the desirability of teaching spelling as an integral part of the language arts. It seems fair to surmise that if the research results of the last 30 years were properly applied in building curriculums and planning procedures, spelling mistakes would be reduced significantly and written communications enhanced greatly. Further investigations of problems in motivation, word selection, gradation, learning, mastery, and word usage are needed to perfect the teaching and learning of spelling.

Studies made in this period suggested a rebirth of interest in handwriting. Careful investigation of the many problems of manuscript and cursive writing should be undertaken.

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CHAPTER IV

English Composition

M. AGNELLA GUNN and ELIZABETH R. BARLOW

THE most noteworthy summary of research findings in English composition published in the past three years is that of Greene (11). He stated that the major interests of research workers to date were the following: (a) studies of the values of formal grammar, (b) analysis of expressional products of high merit, (c) surveys of language usage at various school levels, (d) surveys of the frequency of usage of certain language skills, (e) computations of language errors, (f) analyses to discover the specifics of rhetoric instruction. He suggested the following fields of needed research: (a) identifying skills which are socially significant in oral and written expression, (b) establishing standards of practice in mechanics and usage, (c) developing criteria for grade placement, (d) organizing effective learning sequences, (e) determining learning difficulties of skills, (f) evaluating various teaching methods, (g) improving methods of evaluation and analysis, (h) preparing and evaluating instructional materials. A tabulation of Greene's references by decades might indicate a decrease in either the production or publication of significant research in composition during the past decade, since he includes only 13 references for 1940-1949, as compared with 32 for 1930-1939, and 33 for 1920-1929.

Other summaries of interest to research workers in composition were the annual selected references of Smith (27, 28); a summary of research concerning English usage by Dawson (4), and a research concerning interrelationships among the language arts by Artley (1).

Evaluation in Composition

Travers (32) reviewed the difficulties encountered in evaluating the results of teaching composition, warned against the limitations of both essay and objective tests, and suggested methods of evaluating esthetic expression and outcomes beyond the classroom. Evidence of the possibility of developing reliable marking of themes was provided by Wiseman (35), who reported a correlation of .946 between the aggregate of marks by four experienced persons and their aggregate marks on 200 papers four months later. Ebbitt and Diederich (8) found a correlation of .71 between instructors' judgments of the grades deserved by 422 college students and the students' scores on a six-hour examination in writing.

The opinions of high-school students about the comparative value of essay examinations and objective tests were reported by Bender and Davis (2). The 1040 students in 41 high schools believed that essay examinations would show their knowledge to best advantage and would cause them to study hardest; they would avoid essay examinations if they had

no opportunity to study for an examination. Merrell (23) found that high-school experience with essay tests appeared to aid college students' marks on essay tests.

The inventive aspects of children's compositions were studied by Sister Mary Francis Assisi (22). Three compositions from each of 502 children in seventh and eighth grades were analyzed for inventive qualities. The percentages of compositions falling in six classifications were as follows: ingenious, 6 percent; common, 56 percent; sensationalistic, 13 percent; fantastic, 3 percent; aimless, 13 percent; and noninventive, 8 percent. A preliminary study showed that each type was defined clearly enough so that the writer's judgment in each case agreed with the modal judgment of seven independent judges. An analysis by intelligence groups showed an almost identical distribution of all types of compositions, with a slightly higher percentage of "common" solutions among pupils of 120 IQ and upwards. Of the compositions rated as ingenious, 35 percent were by boys and 65 percent by girls. The two compositions in which starting situations were given yielded 6 percent and 2 percent of ingenious themes, as compared with 11 percent when pupils were allowed to choose their own topics.

Curriculum and Method

A questionnaire survey of the language needs of vocational students in 16 California high schools was conducted by Watts (33). An elaborate list of activities in speaking, writing, reading, listening, and "employing the enabling skills," was sent to 82 vocational and English teachers. These teachers judged the value of each activity for their students, making one of the following ratings: minimum essential for all, desirable for average success, associated with leadership, not important to persons finding employment in the field concerned. Ratings were tabulated for each activity and were divided by agriculture, industrial arts and mechanics, home-making, commerce, all vocations, and English teachers. Tables showed also the times each activity was employed per semester, and the judgment of the author on the most appropriate rating.

Teacher awareness of listening as a language arts activity was studied by Wilt (34), who submitted a questionnaire to teachers in regard to amount of time elementary-school children spent in reading, speaking, listening, and writing in an average school day. The teachers were asked also to rank the four skills in order of importance. The results from 1452 teachers in 42 states led the author to conclude that teachers are unaware of the importance of listening and that they do not teach listening as a fundamental skill of communication.

Lewis (19) showed that standards of correctness in English expression are still highly fluid. He sent to nine groups of educated adults a list of 19 sentences in which a controversial grammatical expression was underlined. An acceptance ratio was computed for each group, based upon the number of expressions considered acceptable by that group. The groups

listed in order from the most liberal to most conservative, were as follows: 19 college teachers of English; 33 authors; 12 lexicographers; 80 editors; 22 radio columnists; 32 high-school teachers of English; 60 readers of *Harper's Magazine* selected at random; 48 feature writers and columnists on Chicago and New York newspapers; 26 editors of women's magazines.

Geist (10) taught a special section of rhetoric for agronomy students in college, in which rhetoric assignments were tied closely to the content of agronomy classes. Altho student reaction to the course was excellent, the author concluded that there was little transfer to agronomy papers, and that the segregation of students was neither necessary nor beneficial.

Lokke and Wykoff (20) doubled the amount of theme writing for 20 college freshmen who wrote 30 to 34 themes a semester as compared with 16 themes a semester for a matched group of 20 freshmen. The two groups were matched for scores on tests of English and intelligence, college curriculum, and previous background of English courses. Double writing reduced failures 66 percent, and improved grades 60 percent.

In the belief that written language tends to inhibit thought of third-grade children, Oftedal (24) tried "picture writing" with 25 children. These children planned, organized, and recorded their stories on drawing paper folded into parts in order to tell the story as a sequence of events. The children then "read" their stories from their pictures. Two picture-written stories and two handwritten stories of each of 13 pupils were analyzed for various elements of expression. The picture-written stories were superior in number of ideas, number of new ideas, amount of original fantasy, adequacy of vocabulary, length of story, length of sentences, and reduction of projection of past experiences.

Status Studies

Lorge and Kruglov (21) correlated readability ratings of pupil's compositions with their measured intelligence. Using the Lorge Readability Formula, they rated the compositions of 50 students drawn from a random sample of eighth- and ninth-grade pupils applying for admission to a highly selective high school of science. They found a correlation of .14, from which they inferred that for this selected group there was no relationship between the structural elements of composition and measured intelligence.

Improvement in letter writing ability of rural children in ungraded one- and two-room schools was compared by Krietlow (17) with that of rural children in graded schools. Experimental and control groups were set up in the sixth grades of both types of schools. Seven hours of instruction in letter writing were given the experimental groups. A letter writing test with a reliability of .92 was used before and after the teaching. Analysis of variance showed significant differences favoring children in graded schools, children whose teacher had two or more years of training, children in accredited ungraded schools as compared with those in nonaccredited schools.

Vocabulary

The size and nature of children's vocabularies continued to interest investigators. Seegers and Seashore (26) and Rinsland (25) summarized research findings and discussed differences in technics of measuring vocabulary. Dolch (7) challenged the assumption that children's free writing is a dependable indicator of word knowledge. Thru specific measurement of children's knowledge of word meanings in four areas, (a) house and home, (b) clothing, (c) recreation, and (d) animals, using objects and pictures, Dolch found results different from those in the free writing studies. He concluded that a systematic testing procedure in specific areas of word knowledge is necessary for accurate measurement of children's vocabulary.

Using stenographic recording of children's oral description of pictures, Carlton (3) tabulated substantive modifiers of 66 pupils in fourth and fifth grades. The pupils were selected for normality of intelligence and socio-economic backgrounds. Of 25,805 words, 1637 were used to modify substantives. The limited number of modifiers available in children's speech was shown by the fact that only 105 different modifiers were used. Kaldegg (14) analyzed high degree abstracts among nouns of time in the writing of children in Grades III to VIII. Altho there was little variation in absolute number of time abstracts, the number of high degree abstracts increased markedly from grade to grade. Hughes and Cox (13) compared the oral language of 45 first-grade children with that found in preprimers and primers. They concluded that children's spoken language was superior to that of the books in variety of vocabulary, vitality, and sentence maturity.

Prediction of Success in College English

The *Cooperative English Placement Tests* were found by Knickerbocker (15) to predict success in freshman English better than did grades on themes written during the preregistration testing period. Fletcher and Hildreth (9) obtained a correlation of .48 between scores on the *Ohio State University English Placement Test* and instructor's ratings of students in English classes. Altho the *English Placement Test* had a correlation of .75 with the *Ohio State University Psychological Test*, the authors concluded that both tests should be given since student morale would be better if achievement in English rather than intelligence were used as a basis for English placement.

Krathwohl (16) computed an index of industriousness in English by comparing students' scores on English aptitude and English achievement tests. Students were divided into indolent, average, and industrious groups. Student achievement in English at the end of the sophomore year showed a positive relationship to the index of industriousness. Low aptitude and low industriousness made it impossible for a student to remain in college two years. In order to survive, a student needed to have favorable standing in either industriousness or aptitude.

Textbooks

The past three years saw the publication of many new professional books in teaching of language arts and English. Dawson (5), Strickland (30), and Tidyman and Butterfield (31) were authors of textbooks on the teaching of language arts in the elementary school. The teaching of English in secondary schools was the concern of books by De Boer, Kaulfers, and Miller (6), Hook (12), La Brant (18), and Stearns (29).

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CHAPTER V

Speech

FRANKLIN H. KNOWER

THIS three-year period encompasses the end of a decade and a mid-century year. It also includes a period when many research projects started in the years of postwar expansion of higher education were brought to completion. It was a fruitful period as revealed by the bibliographies and the many areas of emphasis. Areas of greatest activity include voice science and experimental phonetics, group analysis of speech phenomena, discussion, listening, teaching materials, communication theory, and professional educational problems. No attempt is made in this review to cover the work in speech and hearing disorders as this material is covered in the issue on special education. Three new journals were started during this period and others, particularly the regional journals, greatly expanded.

Bibliographies

Auer (2) reported 231 doctoral dissertations in progress as of 1950. The index to completed graduate theses in speech has been continued by Knower (76) thru Number 18 in his series. There were approximately 1000 graduate degrees in speech granted by American colleges and universities in 1950. The number reported for 1948 was 546. Dow's (33) abstracts provide a more detailed exposition of the content of many of these pieces of graduate research. Haberman's (48, 49, 50) annual bibliography on rhetoric and public address was shifted from the *Quarterly Journal of Speech* to *Speech Monographs* during the period. It provides a systematic annual review of major works appearing in the field. The 10-year bibliography by McDowell and McGaw (91) is the most systematic guide to the theater work of American colleges and universities which has appeared.

Other bibliographies of interest include a 10-year supplement to a previous work by Thonssen, Robb, and Thonssen (120). This bibliography is a useful companion to the major bibliography prepared by the senior author 10 years ago. Knower (79) prepared an index to the major articles in the *Quarterly Journal of Speech* and *Speech Monographs*, and Shepherd (107) used the same classification system in indexing the articles which have appeared in *Western Speech*. Another bibliography by Knower (77) provides a systematic guide to other source bibliographies which are of interest to students of speech.

Voice Science and Phonetics

The study by Black (8) showed that environmental noise affects the vocal intensity of the speaker. Hanley and Steer (54) reported that dis-

tracting noises produced slower rate, prolongation of syllables, and increase in intensity of voice. Black (10, 11, 12, 14) also revealed that the intensity of heard tones has an effect on the intensity of produced tones, that speakers tend to copy the inflection they hear, and a speaker's vocal responses appear more as a reflection of loudness than fundamental pitch. Another study by Black (13) indicated vocal responses are varied in different message types. One of the first studies carried out in the field by Black (9) on the existing phenomenon of the effect of delayed side tone on speech shows that it affects both the rate and intensity of the speaker.

Kelly and Steer (74) indicated that the practice of reporting rate in terms of average number of words per unit of time needs revision to include deviations in rate. The report on average rate did not reveal variations of from 125 to 328 words per minute. Snidecor (112) reported that most pitch changes occur within one and one-half tones. Women's voices vary less than men's; and superior readers read somewhat slower than the average student. Villarreal (122) found individual judgments of vocal quality showed extensive variability altho group judgments have considerable reliability. He concluded that we need devices that will give us more objective evaluations of voice. One such device was reported by Dempsey and others (29) to be a speech meter which produces a direct reading fundamental frequency analyzer.

The phenomenon of intelligibility has been the focus of a number of studies. This standard enables the teacher to get away from personal taste as a basis for speech evaluation. Dayne and Steer (28) described an intelligibility test which appears to differentiate persons of normal and defective hearing. Draegert's (34) study revealed that intelligibility is apparently related to vocal intensity and syllable duration. Kelly and Steer (73) found that reduction from 10 to 20 decibels of previously recommended levels of voice did not greatly reduce intelligibility of speech. Siegenthaler (109) revealed that certain vowels are more intelligible to experts than to nonexperts. Both Curry (26) and Black (12) also investigated vowel intelligibility and reported vowels of equal intensity are not equally well identified. The vowels identified best at lowest intensity levels were the [r] and the [ə].

Tolhurst (121) found the thresholds for voiceless consonants are at very low intensity levels, and that the audibility of sounds is related to their position in the syllable. Black (12) showed that the more open the vowel the lower its frequency and the greater its duration. The work of Fairbanks (37) indicated that the diameter of the oral channel is correlated with the intensity of the vowels. Hanley (53) studied intonation differences in the three major American dialect regions and found greater duration of some sounds in both eastern and southern speech than in general American speech. The study by Wise (129) provides us with a detailed comparison of Russian and English sounds. O'Neill (96) could find no speech reception skills of normal hearing persons related to lip-reading.

Personality of the Speaker

Several studies show significant relationships of the personality of a speaker and his speech. Henrikson (61) reported correlations of ratings on personality; vocal rate, quality, and pitch; and teaching effectiveness of college teachers. Important implications for counseling students interested in dramatics were revealed by Drake (35). He found the Allport-Vernon test of values, the *Minnesota Personality Scale*, and the *Minnesota Multiphasic Personality Inventory* useful instruments. Background information also proved helpful. Acting interests were correlated with scores on feminism, hysteria, hypochondriasis, and social extroversion. Kryter (81) did an extensive study of the effects of many aspects of noise on the speaker.

Five of these studies dealt with stage fright, one of the most persistent personality problems of the speaker. Low and Sheets (87) showed stage-fright to be related to lack of experience, poor social adjustment, narrow interests, and weakness in linguistic ability altho it was not related to intelligence, ability to reason, or some types of interest. A correlation of .59 between self-ratings and rating of others was revealed by Dickens, Gibson, and Prall (30). They also indicated speakers feel more nervous than they appear. In another study by Dickens and Parker (32) stage fright was shown frequently to increase blood pressure and pulse rate. Men and women apparently do not reveal their nervousness in the same way. Paulson's study (97) was concerned with the possible transfer of effects of learning to control nervousness in speaking. It indicated positive transfer for those with better social adjustment. Smith and Zawadshi (110) reported the successful use of hypnosis in relieving stage fright behavior.

Language

Johnson, Johnson, and Mark (69) did an analysis of the problem of verbal fluency and found it related to vocabulary size. Persons with the larger supply of words deplete them less rapidly. Hearers were shown by Herman (63) to respond differently as language stimuli are varied. Farr, Jenkins, and Paterson (38) demonstrated that the number of one-syllable words correlates highly with Flesch formula scores on reading matter. Swain (117) has data to show that 80 percent of a student group made more gain in a one-semester course of public speaking than in three quarter-courses in freshman English. Thirty percent made more gain in punctuation and sentence structure. Foley (41) reported conflicting findings on these points.

Children's Speech

Irwin (67, 68) continues to make significant contributions to our knowledge of infant speech. He shows sound types and phoneme frequency to differ in children of different family occupations and age groups. In

another study (66) consonants in initial positions are shown to develop in a linear rate; in a medial position they develop in a decelerating rate, and in a final position they develop in an accelerating rate. With Spiker (113) he reported low correlations between Kuhlmann test scores and certain aspects of speech development. This is consistent with data on homogeneous intellectual groups at later stages of development. Spriestersbach and Buck (114) revealed the use of speech as an index of growth and maturity. Lundeen (88) found diadochokinetic rate in children varied for different sounds in a manner similar to the order of sound development.

In a survey of speech delivery in Grade I children, Hahn (51) reported only about 48 percent with good speech. Brieland (18) found blind children had greater pitch modulation, good variety, and loudness. They had less bodily action and lip movement than sighted children. Anderson (1) and Heisler (60) revealed some of the behavior characteristics of children in an audience.

Speech and Thought

Research on the relationships of the higher mental processes to speech received little attention during this period. The work of Brown (19) showed that students had a more negative reaction to emotional than to irrelevant thinking. A test was devised which differentiated the thinking of college freshmen and graduate students. Brembeck (17) found that altho argumentation students gained more skill in critical thinking during a course than did a control group, the argumentation students had better original scores. Men subjects were more critical than women.

The Audience

In a study which bears on the influence of organization or arrangement in speaking, Cromwell (25) found that the best order for a weak and a strong argument in a series was to place the strong argument last. This may be interpreted as supporting climax order. Most of the studies of this problem done during the last few years have supported the anti-climax order. He reported further that ratings of speeches by listeners did not agree with their apparent effect on attitude scale changes. Smith (111) revealed that altho a randomized order of points was less effective in changing attitudes, the rearrangement of the order of points made little difference. Listeners thought the well organized speech would be most effective. Haiman's (52) data indicated that announcements of the prestige of a speaker influences the amount of attitude change in the audience. They also showed that speech had more effect with those in favor of the proposition and with women than their opposites. Moreover, original opinions influenced judgments about the speaker.

Working with measures of audience comprehension of instruction from

sound films, Nelson (93) revealed that altho learning occurred from both hearing and seeing, listeners learned more from what they saw. Maier and Solem (92) found that audiences learned more when they participated as role-players in problem situations than they did from mere presentation of facts and figures. The principle that a speaker should adapt his speech to his audience is supported by Grace (45) who studied the effects of different degrees of knowledge about an audience on the content of communication.

Heisler (60) made an extensive analysis of the difference between children who listen to radio and television a great deal and those who do not, for possible harmful effects, but found no statistically significant differences. Much of the work of Stauffer and associates (115) has significance for the methodology of those who work on audience research.

Group Influence on Speech

There has been a tremendous increase in interest in the influences of the group on communication processes. Most of these studies deal with speech. In a study of status Kelley (72) found persons of high status level are not critical of themselves or of their work in the presence of persons of lower status. A group of high cohesiveness was shown by Back (3) to make greater effort to reach agreement than groups of low cohesiveness. These results are supported by the findings of Horowitz and others (64). Leavitt (82) reported a relationship between the roles played by members of a group, their behavior, and their communication patterns. Festinger and his colleagues (39) reported one of the most extensive series of studies on problems of this type. In general they revealed speech to be influenced by pressures toward some conformity, movement goals with the group, and by the emotional states of its members. Guetzkow (47) edited a book which tells us of many of the studies sponsored in this area by the Office of Naval Research.

The work on the personal interview reveals another type of speech pattern given extensive analysis. Robinson (102) showed that speech in the interview is related to the topic discussed and the attitude toward it of the one being interviewed. Seeman (103) analyzed interviewers' methods and the evaluation of them. There was general agreement on the categories used to classify the interviewers; counselors were shown to be relatively self-consistent in their methods, but not consistent with others in the group studied. Sherriffs (108) revealed that instructor's interviews with students in large classes seemed to be correlated with better student work in the courses. Davis and Robinson's (27) study of methods of overcoming resistance to counseling show the process to be difficult. Fields (40) reported a group interview technic used as a test with favorable results.

The study of conversation by Phillips (99) indicated that poor conversationalists are seldom aware of their problems, that the topic and the situation do much to influence the quality of conversations, and that good

conversationalists score better on a number of aptitude and personality tests than do poor conversationalists. Bradford and Corey (16) show how large groups can be organized to participate and to gain more from meetings than they will gain without active participation.

Discussion

Much of the work reviewed under the previous heading might have been included here. There is a growing interest in the evaluation of discussion technics. Hardee and Bernauer (55) used a checklist to facilitate the process of evaluation. Bass (4) described the operation of leaderless group discussion and showed that the emergence of leaders in this type of activity is related to the amount of talking done. In another study Bass (5) compared the reliability of judgments of job candidates in leaderless group discussion and interviews and found no significant differences. Factors common to the ratings include "voice, manner and bearing, physical appearance, and speech." This point may illustrate the findings of Dickens and Heffernan (31) who contend that many of these studies set up by psychologists show a lack of the realistic understanding of the nature of speech and discussion shown in studies set up by students of speech.

Reading—Oral and Silent

McCoard and LeCount (89) found that extremes of skill in silent reading are revealed in the evaluation of oral readers. Jones (71) indicated that speech training improved silent reading achievement of Grade III children, altho boys did not improve as much as girls. In a study of physical action in simulated expression of emotions by oral readers Strother (116) reported that some emotions were characterized by a higher level of action than others and that readers who best simulated the emotions showed more widespread action. Practice heightened the use of such action.

Speech in Industry

A report by Pigors (100) showed the best possible extent of the use of speech in industrial relations. Peters (98) did a major piece of research on the use of communication in the Esso Standard Oil Company, and recommended that a continuing study of this problem include evaluation of communication media, application of human relation skills, opinion surveys, counseling services, training editors, better use of letters, mass media, manuals, cooperative committees, use of research facilities of colleges and universities, and better organization of communication policies. Knower (78) did a pilot study in this area and found management interested in improved communication for executives and supervisors but with little interest in improved communication for workers. The communication problems of men in business were found to be similar to communication

problems of men in other kinds of work. In a survey by Zelko (130) it was shown that about three-fourths of 322 major business concerns considered communication skills sufficiently important to give their supervisors and executives some training in them.

Listening

Studies in listening are of two types: one approach has been developed by the communication people in general education, and the other has been followed by those interested in mass media. Blewett (15) reported such findings as these: (a) There are considerable individual differences in listening skill. (b) Scholastic aptitude and general intelligence have only moderate correlations with listening. (c) Listening skill cannot be predicted from measures of reading and vice versa. (d) Listening is not closely related to hearing acuity. (e) Listening is a fruitful method of learning. Kramer and Lewis (80) revealed that those who both see and hear a discussion get much more than those who hear only. Black's work (8) shows that the efficiency of listening is influenced by the presence of noise. There appeared to be little improvement in listening as the result of training in reading according to Johnson (70) altho training in listening produced statistically significant improvement in listening. Heilman (59) supports these results on measured improvement, and found that this training has transfer value to new and different situations. The training was most beneficial for low aptitude students. Brown (20) reported a new type listening examination which is as effective as written examinations and gives the listener an equal chance with the reader to demonstrate his knowledge.

Swanson and Jones (118) concluded that television viewers listened less to radio and read less than others. They tended to know less about current government affairs. Carlson (22) found that guides to reading could be used to improve radio listening. Dunn (36), Levi (85), and Tallman (119) also reported success in improving the radio listening habits of students. Chall and Dial (24) used readability formulas to show that they could predict listening difficulty and interest. Some features of newscasts which affect listeners were shown by Harrell, Brown, and Schramm (57) to be: preference of newscasts of 20 to 30 items rather than 45, human interest, index words, dramatic events, and nearby events. Details including names are not well remembered.

Extracurriculum Activities

That college debate is not an activity restricted to a few is shown by Nelson and Fest (94) in their report indicating the average number of participants per school to be about 30, with the average number of learning experiences per student to be about 27.50. Carmack (23) found the average debate budget to be in the neighborhood of \$1000.

Williams (127) and Hatten (58) surveyed college and university theater productions. One hundred and twenty-six schools reported 403 productions with 1446 performances which played to over 1,200,000 spectators. The educational theater appears to be mass communication. Gee and Dietrick (44) showed that in one year more than 10,000 students participated in and over 200,000 spectators viewed high-school plays in Wisconsin. Bavelly (6) found that what high-school students prized most from their work in dramatics was improvement in fundamental speech skills rather than preparation for professional work or recreational activity. The research on speech activities by the North Central Association (95) lead them to conclude that well-directed educational programs of speech activities are fundamentally sound.

Teaching Material

Two reports by LeBel (83, 84) provide an excellent review of principles to follow in purchasing and caring for recording equipment. Henrikson and Irwin (62) show variable uses of recording equipment and report need for more study to properly evaluate its uses. Voorhees and Foster (123) provided an extensive list of recordings he found useful in teaching theater. In two reports Foster and associates (42, 43) do a similar job for film strips, film slides, and 16mm films. The persistent problem of play selection was investigated by Seibert and Sheets (104) and by Sheets (106) who reported on the plays considered most usable by a large number of directors.

Professional Problems

The typical college curriculum for the general speech major was studied by Hargis (56) who found the average semester credit hours for theater to be 6.7; public address, 6.1; speech science, 3.5; interpretation, 3.5; radio, 3.4; and fundamentals including voice and diction, 6.3. In radio, Williams (128) reported little uniformity in course patterns but that most schools require a considerable amount of work in practical radio broadcasting. West (124) found that only about 60 percent of our colleges give theater directors credit on teaching load for time spent on theater productions. When credit was allowed, he claims it was not enough to prevent theater directors from carrying an unduly heavy work load. The study by Knower (78) analyzes the speech program of an entire state from kindergarten thru the graduate school and in programs of adult education. It made use of documentary evidence, questionnaires and interviews to secure the data on which to evaluate the soundness of the program. While the work in Ohio is seen to compare favorably with programs elsewhere, many areas are in need of improvement.

Byers (21) reviewed the attempt to predict teaching success, and reported speech is shown in many of them to be an important factor. The work of

Huckleberry (65) indicated that improvement in speech is correlated with improvement in the success of practice teachers. Lillywhite, Phelps, and Basye (86) found that altho teachers report recognition of need for speech skill, there is no consistent pattern of speech instruction in teacher-training institutions.

In a study of degrees awarded to speech majors Knower (75) revealed that among 60 special area majors studied for 1947 and 1948, speech bachelor's degrees ranked twenty-fifth and twenty-eighth from the top, speech master's degrees ranked twenty-second and twenty-third from the top, speech doctorates ranked twenty-third and twenty-fifth from the top. The area of the country with the strongest speech program is the Midwest. The West has relatively strong speech programs, whereas the East is generally backward in speech education. Gray's (46) study of the history of speech education reported what has been done and suggests other problems to be studied.

Communication Theories

This report should not be concluded without some reference to the variety of communication theories in which there appears to be a growing interest. One of these theories stems from work in general education. Some claim that best educational results will be derived from integration of all work in this area. In a study by McCrery (90) correlations between speaking and writing achievement are found to be low. He reported that "performance in one area provides almost no basis for predicting performance in others." Riley, Riley, and Lifshitz (101) from a background of interest in sociology and public opinion analysis outline a research program growing out of their studies.

The theory that has probably attracted the most attention is sometimes called the Mathematical Theory of Communication. Wiener's two books, (125, 126) are basic expositions of this point of view. Another is the book by Shannon and Weaver (105). Belzer (7) reported on the actual use of some of this theory in the work of the Bell Telephone Company. Before the significance of some of these theories for education can be soundly evaluated, they need to be translated into principles applicable to everyday communication activity. There might be considerable value in having the proponents of various theories of communication make a greater effort to communicate with each other, and particularly to make the acquaintance of the work of other scholars on their problems. Until this is done, much unnecessary confusion will continue to prevail in this important area of scholarship.

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CHAPTER VI

Instruction in Foreign Languages

JOHN B. CARROLL and S. EARLE RICHARDS

BECAUSE there was no review of foreign language instruction in the April 1949 issue of the *REVIEW OF EDUCATIONAL RESEARCH*, this summary covers a six-year period dating from approximately January 1946. While a large number of contributions to the literature of this field were published during the period, comparatively few of them can be thought of as representing educational research studies. This review desires to focus attention on the experimental studies, but it has been found necessary to refer extensively to writings which suggest new orientations and methods in language teaching, many of which might well be subjected to experimental evaluation.

As the result of various factors, the field of language teaching has been in considerable ferment during the past six years. The objectives, methods, and procedures used in various government-sponsored language-training programs during World War II have had a profound effect, not only because they brought out into the open much latent dissatisfaction with the previous emphasis on the reading aim but also because in many respects they suggested ways in which academic programs could be usefully revamped. Foreign language methodology seems to have been revitalized in these four ways: (a) aural-oral aims and methods are given much attention, even when reading is the primary goal of instruction; (b) audio-visual equipment is being extensively used to help achieve these goals; (c) intensive and semi-intensive courses are receiving wide experimentation; (d) descriptive linguistic analysis is being brought to bear on the preparation of teaching materials. As a result of the last of these trends, it is claimed that a sounder approach to phonetics and grammar has been made possible. For example, grammar is to be taught functionally rather than normatively. These trends have resulted essentially from an inner conviction that the proper study of language must begin with its spoken, living form rather than its written form. This changed orientation has perhaps been the chief contribution of the linguistic scientists, who on theoretical grounds drew attention to the importance of aural-oral objectives and on practical grounds demonstrated that such objectives could be attained about as well as the reading objective. Thus, the star of the Coleman report (36), which emphasized the reading objective, no longer remains so clearly in the ascendant. At the same time, we find no little ambiguity in the few experimental studies which have attempted to evaluate the relative effectiveness of traditional methods as compared with methods now being emphasized.

It is necessary to comment on the use of the appellation "ASTP" used so often by authors cited in the remainder of this review. While it is true that the intensive language-training methods advocated by linguistic sci-

tists came into greatest prominence in connection with the language courses of the Army Specialized Training Program, this connection was purely circumstantial; what are frequently called ASTP methods were not originated in the ASTP nor were they peculiar to that program. The initial directives regarding the ASTP methods originated from the intensive language program of the American Council of Learned Societies, and were based on the thinking of a number of linguistic scientists who had previous experience with the teaching of a variety of unusual languages. Agard and Dunkel (3), however, have pointed out that these directives allowed considerable latitude; the methods actually employed in the ASTP were sometimes a far cry from what had been intended. Therefore, the designation of a method as an ASTP method can only mean that the method is in some more or less vague sense a variation of a *direct*, intensive method emphasizing the aim of speaking and understanding a second language.

Bibliographies, Reviews, and Reference Works

During the period covered, the most significant bibliographical contribution was the publication of the third volume of Coleman and others' analytical bibliography (37), covering the years 1937-1942. Plans for continuing this work beyond 1942 have not yet materialized. Tharp and others (133) contributed an annotated bibliography of modern language methodology for the year 1949. Brickman (23, 24) covered the years 1942-1949 in his reviews; in our judgment, however, some of Brickman's comments may give rise to erroneous interpretations of the literature he covered. Newmark (98) published a useful compilation of significant articles and extracts covering many phases of the field, ranging from 1900 to about 1946. An excellent bibliography appeared in Dunkel's book (47) on second-language learning. Brown and Russell (26) made available a bibliography on the teaching of English as a foreign language. Bull (27) discussed the theory and practice of Spanish word counts, and Brown and Shane (25) prepared a Brazilian Portuguese idiom list.

General Discussions of Trends and Objectives

As evidence of the contemporary trend toward an emphasis on the oral-aural approach, we need only cite a few general discussions. In a short and witty article, Bovée (19) took a quick glance backward and reviewed the grammar-translation methods of the nineteenth century, the "direct method" of the early twentieth century (the direct principle, he said, meant "the establishing of a direct relation between the thought and the foreign word"), the "thoroughly discredited" Coleman report published in 1929, and the ASTP methods which "have exerted a profound effect on the teaching of the modern foreign languages." He cited a number of universities which are using the "modified Army technique, i.e., the aural approach." Finally, he mentioned his own experiments, which appeared to

show that foreign language materials are much better retained if oral practice is emphasized. Schreiber (125), Delano (42), and Alexander (6) wrote enthusiastically about the possibilities of the oral approach. It is significant, also, that even those like Pargment (102) or Phillips (106) who were less sanguine as to the feasibility of the oral approach were nevertheless willing to urge as much attention to the oral objective as possible. Pargment cautioned that language learning by any method is difficult.

Kaulfers (76) pointed out that foreign language methodology is probably more thoroly documented than any other field of education. He advocated that before any change is made in a curriculum, the teacher should take it as an obligation to study the literature of educational research, which he attempted to summarize briefly. He concluded that research on vocabulary learning shows no significant superiority of any one method over another, but that every method must be judged as to its total contribution to language skill. Likewise, there is no "best" method in teaching reading, but silent reading ability should be encouraged early if a life-long interest in reading is the objective. Kaulfers agreed with many others who have found that training in formal grammar is of little use, and deplored the uncritical use of language word lists. He summarized the Agard-Dunkel investigation (3) with the remark that its findings "confirm conclusions long accepted as valid principles in educational psychology," namely: we learn what we do (i.e., possibilities of transfer from one skill to another are minimal), the direct route is the shortest (e.g., superimposed systems like formalized phonetics are distractions), every method has a point of diminishing returns, and individual differences are indestructible. Despite his acceptance of the last of these points, Kaulfers scorned the attempt to measure language aptitude on the ground that "to say that a person has no language talent is almost the same as saying that he has no capacity for being a human being." Similar iconoclastic conclusions were drawn on such topics as transfer of training, languages in childhood education, and bilingualism. While Kaulfer's remarks reflected a healthy skepticism, one may feel that he was unduly pessimistic as to the possibilities of further research on language methodology.

The Psychology of Language Learning

For the period in question, the most significant publication related to the psychology of language learning was Dunkel's comprehensive survey (47), completed as part of the Investigation of Second-Language Teaching sponsored by the Rockefeller Foundation. Stressing general theory rather than classroom practice, Dunkel began by considering in a systematic way the fundamental processes in learning to speak and understand a language, bringing in experimental evidence wherever it was available. He then considered various factors in second-language learning: age; intelligence and background; previous linguistic skills, habits, and experience; motivation;

the type of command sought; the teacher; and the materials. Thruout, considerable attention was given to the implications of linguistic science and to a wide variety of psychological experiments in learning, memory, etc. He concluded, however, that despite the significant amount of progress which has been made, "we need to know a great deal more about many important aspects of language learning." Dunkel's volume is a rich source of information and ideas concerning language learning and must take first place on the reading list of any serious student in this field. It contains several valuable appendices: (a) a description of carefully constructed learning materials (using Persian) which could be used in experimental investigations, (b) a report of the resolutions adopted by a Chicago Language Conference held in 1948, and (c) a 290-item bibliography. Unfortunately, the book lacks an index.

There have been two other pleas for the development of a more adequate psychology of language learning. Tyler (136) summarized some of the more urgent questions, and Carroll (30) pointed out certain principles from educational psychology which need to be emphasized in planning language training programs, particularly those emphasizing the oral-aural approach.

Kawczynski (77) suggested that language learners under the oral-aural approach fall into two general types: (a) those who are more interested in the grammar and structure of the language to be learned, and (b) those of a more extroverted temperament who are mainly interested in glibness. Eoff and Bull (52) advocated a "semantic approach" to the teaching of foreign languages. Their approach involved "going from the known to the unknown" by explaining English words before introducing the foreign word. They also felt it important to equate concepts rather than words, and called for a frequency list of concepts to help in this phase of instruction. After arguing that the results of the Agard-Dunkel investigation (3) compel a renewed emphasis on the reading aim in contrast to the oral-aural aim, Bernard (10) sought to present the psychological principles involved in the most efficient learning of foreign language vocabulary in reading. According to this writer the greater part of vocabulary learning, even in the native language, is by an indirect route, i.e., thru context. Hence, Bernard suggested, a foreign language text containing frequent interlinear translations will gradually build up the desired associations, and will save the drudgery of resorting to a glossary. Buxbaum (28), in a psycho-analytically oriented discussion, theorized that the ability to learn to enunciate foreign languages may be dependent on unconscious controls residing in the superego.

Interest continued in the question of whether study of a given foreign language shows any transfer to another language. Rosebaum (121) reviewed the literature on this question and concluded there is some evidence of positive transfer, that the amount of transfer is a function of time spent, and that most transfer takes place in connection with vocabulary acquisition. Several publications of Kettelkamp (78, 79) are based on extensive

experimental studies. In the first of these, some results favoring transfer were reported, but in the later publication Kettelkamp gave the impression that there was really little support for the claim that one language (e.g., Latin) should be studied as a preparation for the study of another language. This study involved the examination of results obtained when high-school pupils study several languages in various sequences.

Wittenborn and others (143) investigated the study habits of modern language students in college. Certain kinds of study habits, as reported on a questionnaire, were predictive of course-grades even when intelligence was held constant.

Leopold (85) reviewed the study of child language and bilingualism and pointed out that these fields have been pursued much more by psychologists than by linguistic scientists. Tireman's book (134) on teaching Spanish-speaking children is also pertinent to the problem of bilingualism. Smith (129) studied the vocabularies of bilingual children and found that their combined bilingual vocabularies (as measured by a standard test) were somewhat smaller than those of comparable monolingual children. She recommended on the basis of these results that a second language should not be begun until after the child has begun school.

It will have been noted that few experimental or observational studies have been cited in this section, most of the publications having been reviews or theoretical articles unsupported by any controlled data. Interest in the psychology of language learning thus seems to have waned during the period covered in this review. It has not been thought appropriate to review studies in the experimental psychology of verbal learning, since they have only an indirect bearing on practical problems of classroom procedures. An account of achievements in this field is to be found in the review by Hovland (72); Woffle's review (144) of the psychology of training is also valuable.

Methods—General

The majority of reports analyzed in the following sections on methods reflect the return to a more direct method of teaching foreign languages.

American textbooks on language methodology included Kaulfer's *Modern Spanish Teaching* (75). The renaissance of the direct method is seen, in England, in the recent publications of Duff (45), Ball (9), and Stott (130). Duff believed that grammar should be studied with a linguistic approach, and that vocabulary should be learned directly, without translation into English whenever possible. In the final section of his book, he compiled a list of "absolutely essential" beginning words for all languages.

The essence of what may be termed the linguistic approach is the application of linguistic science to (a) the interpretation of educational objectives, and (b) the analysis of the language system to be taught. The "linguistic approach" may also involve certain instructional features such as native informants and drill sections, but these merely reflect the pedagogical biases of some linguistic scientists. Hall (64) gave a popular

presentation of linguistic science and its implications for language learning. The Linguistic Society of America has continued to publish analyses of particular languages, such as Hall's study of French (63). Among the textbooks representing the use of the "linguistic approach" are those of the Spoken Language Series (e.g. 135), accompanied by phonograph records. Pedagogical problems were discussed at Georgetown University's Round Table on Linguistics and Language Teaching (41). Fries (55), who has long been active in the teaching of English to foreigners, expounded his belief that methods and materials should be specially designed to take account of the similarities and differences between English and the native language of the learner.

According to Politzer (108), first-year language should be made a subject instead of a skill and should include the elements of linguistic science. His second-year course would contain an outline of the literary history of the language. In a second report (109) he proposed four ways in which students could become interested in language as such: (a) they should be taught something about the language, and (b) the psychology of language learning should be explained to them, as well as etymology and the grammatical structures of radically different languages. Bolinger (17) believed that much of our difficulty in language teaching is due to poorly trained first-year teachers and inadequate texts. Väänänen (138) agreed with this idea, suggesting that all language teachers should keep pace with their science, linguistics.

Comprehensive surveys of ASTP methods have been published by Agard and others (4), Angiolillo (8), Lind (87), and Matthew (90). Angiolillo discussed the origins, development, and methods of the government-sponsored language programs; his evaluations and interpretations are of particular interest. Lind pointed out some practical and technical difficulties in transferring ASTP methods to civilian education, altho she was in favor of semi-intensive courses, where possible, to achieve all aspects of the traditional five-fold objective (i.e., including the cultural aim). Shorter résumés may be found in Aggeler's appraisal (5), Harris's (67) interpretation of the intensive methods, and Reid's (114) study of the civilian use of drillmasters. A practical application of these methods in a specific civilian situation was described in the reports of Agard (2) and Cowan (39) on the Cornell Plan. A faculty committee (95) assigned to evaluate this plan concluded that despite certain disadvantages it had been a success and recommended its continuance.

The many references on foreign language methodology cited below have been arranged by specific languages, if only to provide a convenient division of the material. It should be recognized, however, that there are probably few methods applying to a particular language which would not also apply to the teaching of any other language. We shall start with publications based mostly on suggestions, interpretations, and uncontrolled observations of the "before and after" variety. Frankly experimental studies are reviewed under separate headings.

Methods—German

Koenig (80) reported on the use of a field trip to German districts as a good device for motivation and oral-aural practice. Scholz (124) believed that a direct method with functional grammar produces the best results. He noted also that more oral-aural practice can be obtained by splitting the class into groups of two or three students. The difficulties of teaching complex German sentences were examined by Boeninger (16) and Schmidt (123). Boeninger's students converted sentences taken from a complex German selection into simpler forms, and, by restricting them to certain types of sentences, he claimed to teach grammar functionally. Schmidt suggested the use of symbols for various sentence elements. The *raison d'être* for languages is, according to Shears (126), to impart information, and he declared that much caution should be used in drilling on unnatural bits of isolated language. He preferred not to mutilate reading selections for drill. Methods for teaching scientific German were described by Radimersky (110) and by Pauck (103), who recommended the use of common texts in the beginning phases and in later phases when students are grouped by major interests, the use of texts consonant with these interests.

Probably the most comprehensive discussion of the use of the intensive methods in German was "A Symposium on Intensive Courses for Civilians" (60). This study described what various universities have accomplished by adopting variations of the ASTP technics for the teaching of civilians. Jordan (74) preferred this approach for the first two years. Metcalf (93) described a 12-week intensive summer course with emphasis on reading but with optional oral-aural practice. Other universities have adopted full year intensive or semi-intensive courses. Fehlau (53) outlined an intensive course with much oral-aural emphasis covering two years in one. Another first-year intensive course with two hours a week of linguistic explanation and six hours of oral-aural drill was discussed by Bosshard (18). Funke (57), Goedsche (62), and Shelton (128) developed reading and oral-aural goals in semi-intensive courses of five to seven hours a week the first year. Shelton reported that with little practice in writing students did as well as those trained traditionally. Two more intensive courses were described by Peisel (105), who recommended a 10-hour-per-week ASTP approach, and by Nordsieck (100), who favored a 15-hour-per-week course including some oral-aural practice but with a traditional approach. Both Peisel (105) and Nordmeyer and White (99) indicated that linguistic ability should be made a prerequisite in intensive courses with emphasis on speaking and understanding since slow students hamper everyone else. Still other experimental courses were discussed by Ulmer (137) and Hite (70), the latter advocating the use of language "houses" to further speaking aims.

Many opinions were voiced as to the relative merits of the oral-aural and the traditional methods. Kurath (81), for example, believed that oral-aural methods achieve all aims better than any other. Striedieck (131) disagreed with him, suggesting that the favorable results stem from the intensiveness of the work rather than from the method used.

Methods—French

Of the various methods of teaching French analyzed, the oral-aural approach predominated, as with German, even when the reading goal was the primary aim. Delattre (44) believed that if the average class were taught only one-half the time by the speaking approach the pupils would read and write as well as under the traditional approach. In his opinion the newer methods are superior in all ways, particularly in motivating the students. He emphasized that spoken language should be taught before written language: that sounds should be associated with meanings before the student reads; pronunciation habits should be established before the student writes; and grammatical habits should be formed before rules of grammar are introduced. White (139), DeCannière (40), Richards and his associates (69, 115, 116, 117), and Harris (68) agreed that formal grammar should be de-emphasized and that the proper method should stress participation, particularly in speaking and understanding the language.

At lower than college levels excellent results with the conversational technics have been obtained in high school by LeVois (86) and in Grades V and VI by Machan and Messimore (88). Cheney (32) suggested that where constraints are placed on foreign language courses by state regent and college entrance requirements, an alternative "practical" course emphasizing speaking and understanding can be instituted, with graduation credit, for students desiring this emphasis. Bodier (15) believed that a special course should be instituted with the primary aim of improving the student's ability to *understand*.

Emphasis in various reports was placed on the importance of active "doing" in learning a language. Myron (97) described a method whereby students work in pairs, and Robinove (120) advocated a special *dictée* for which the students would prepare very carefully. The uses of a language laboratory and recordings were treated by Gaudin (59) and Colman (38). Carefully graded films with recordings were used by Richards and others (118, 119) for secondary and college level French and Spanish. Their modified direct method was based on experience in teaching English as a second language.

Carmody (29), however, disagreed with the use of modified ASTP technics. He asserted that much of the ASTP was a waste of time and money, and that we do not need speed in civilian courses, nor do we need descriptive phonemics or linguistic analyses.

Methods—Spanish

Pitcher (107) recommended application of the ASTP technics and the oral-aural approach to both secondary and elementary Spanish teaching. Moxley (96) discussed a device called *El Misterio* for motivating aural and oral comprehension. The "mystery" consists of a set of written directions which are read in Spanish each day until some pupil solves them. For

students desiring a "pragmatic" knowledge of Spanish for work in South America, Raven (111) advocated aural goals. Bleznick (14) believed that all first-year language courses should be so taught, and Willis (141) favorably described this approach as employed in a large university. A course discussed by Abraham (1) consisted of recordings of 20 lessons with a minimum of grammar, this being introduced only gradually. Blayne (12, 13) believed that students can learn to read Spanish as well as English, and brought out various procedures useful in speeding up silent reading. He suggested that too much training in oral reading may force students to read subvocally, thus slowing up their silent reading.

Methods—Other Languages

Many of the reports cited above have alluded to use of oral-aural methods in a variety of languages other than French, German, and Spanish. Mitchell (94) presented an ASTP approach with recordings and graded texts for secondary-school Russian. One report dealt with Portuguese; this was a wartime study by Cioffari (35) on the use of ASTP methods in Brazil for Army personnel. Reichenberger (113) got excellent results in Italian with this same approach. He indicated that grammar was not stressed, and that the conversational approach improved reading.

Peckett's study (104) claimed that in the teaching of the classics the direct method was first applied in Cambridge, England in 1904. In his discussion of historical trends, he pointed out that language is primarily meant to be spoken and is best learned that way no matter what the ultimate aim of the beginner. Sweet (132) developed a highly promising linguistic and oral-aural approach to the teaching of Latin. He pointed out that the contrast between English and Latin structure is much greater than popularly supposed, and thus the key to his teaching method lies in his stress on the inflectional signaling-devices of Latin in contrast to the positional (word-order) signaling-devices of English. Recordings and other audio-visual aids are an integral part of the method. Else (51) proposed that a simplification of Latin grammar on linguistic principles would do much to improve Latin teaching. Dunham (46) reported various suggestions on high-school Latin curriculums.

Methods—Audio-Visual Aids

Recent emphasis on oral-aural methods has aroused widespread interest in the effectiveness of audio-visual aids. Space does not permit an exhaustive summary, but the following reports are most pertinent. Ebelke (50), Huebener (73), and Harris (66) illustrated the uses and advantages of common types of audio-visual equipment, and Gaudin (58) described how to set up a language record library (*discothèque*). For the minimum laboratory, Rosselot (122) specified three pieces of equipment: a record cutting machine, a wire recorder, and playbacks. Chagnon and Kettelkamp

(31) recommended the use of the microphone for correcting and improving speech habits. (More recently, tape recorders have been favored over wire recorders.) Delano (43) described the advantages of a system whereby students make phonographic recordings of their speech. Girard (61) set up a sample audio-visual unit in French on Brittany, explaining how and where to find materials. One interesting use of audio-visual aids was covered by Meiden (92) in his description of a beginning radio French course. Recordings of different French voices were used with an accompanying simplified text. Other reports on audio-visual aids were those by Ornstein and Johnston (101), Frauenfelder (54), and Lemieux (84); the language laboratory system set up at the Institute of Languages and Linguistics at Georgetown University deserves special mention (41).

The Investigation of the Teaching of a Second Language

The investigation of the teaching of a second language (3) was a research project on a scale somewhat comparable to that of the Modern Language Study of the late twenties. This investigation proposed to compare in effectiveness the methods of the traditional type with the methods being adopted in many schools and colleges under the stimulus of the Army language courses. Altho Dunkel and Agard, the principal investigators, were well aware of the many *desiderata* of an ideal experimental design, they were forced to assemble data in a variety of situations where they were not in a position to specify the procedures which would be followed and the data which would be collected. They were further handicapped by the fact that they could not construct, early enough in the three-year period of the investigation, instruments which in their opinion would be satisfactory measures of oral-aural competence.

Nevertheless, the achievements of this investigation were considerable. An especially clear presentation was made of the possible objectives of language teaching and of the possible ways of measuring those objectives. To evaluate the reading objective, Cooperative Test Service instruments were used, supplemented by a Russian test constructed on the model of the Cooperative tests. Special aural comprehension tests were prepared and standardized on several thousand students; Spearman-Brown reliabilities ranged from .73 to .95. Some work was done with tests of oral production. The experimental comparison of traditional and new-type methods was made by the analysis of data from seven colleges and one high school not stressing aural-oral objectives, and eight colleges and three high schools stressing aural skills as an initial objective and introduction to reading. Practically all the commonly taught languages were involved, and one section of the experiment was concerned with the teaching of English as a foreign language. In a number of instances there were fairly well-controlled comparisons; in others, it was impossible to say whether adequate controls existed. Experimental or statistical matching technics were rarely used, if at all. Focusing their attention on the better experimental

situations, the investigators found a number of significant differences favoring one group or the other. In general, they concluded, the traditional methods produced slightly better knowledge of the written language, while new-type procedures showed a slight edge in producing a command of the spoken language. At all events, the new-type methods did not seem to show the advantages which had often been claimed for them, and the investigators urged modesty on the part of adherents of the newer technics. They also argued the need for more precisely controlled experiments, to be undertaken when the newer methods might have been further developed.

Despite the generally negative results of the investigation it must be pointed out that no dramatic *failures* of the new-type methods were demonstrated. Rather, both traditional and new-type methods were shown to be wanting in meeting their avowed objectives. It should also be pointed out that it was often difficult to distinguish between "traditional" and "new-type" methods *except* in terms of avowed objectives. There was a good deal of oral-aural work in many of the traditional courses, and there was considerable emphasis on reading and even grammar in the "new-type" courses. Thus, the Agard-Dunkel investigation cannot be taken as evidence either for or against either traditional or new-type courses, even if one disregards the admitted weaknesses in its experimental design. It is significant that Agard is at present intimately associated with a teaching program (at Cornell University) which very much emphasizes the "linguistic approach" and the newer methods.

Other Experimental Studies

Standing almost at an opposite pole from the Agard-Dunkel investigation was a study by Hohlfeld (71), who used extreme care in obtaining matching between experimental and control groups and in following contrasting teaching methods. Twenty-eight college students in two experimental Spanish classes were matched with the same number in two control classes with respect to 17 variables. The experimental teaching procedure emphasized the development of oral-aural skills; a series of phonograph records constituted the chief teaching materials. The control procedure emphasized the use of a textbook, grammatical analysis, rapid silent reading and translation. All classes were taught by the investigator. Comparative achievement was measured after eight and after 32 weeks. Non-significant results were obtained on all parts of the *Cooperative Spanish Test (Advanced Form P)* and for several other tests of the traditional type. "Almost" significant results favoring the experimental group were yielded by an aural comprehension test and a test on Spanish life and culture, while "overwhelmingly" significant results in the same direction came from a phonetic accuracy test and an oral reading test. Thus, the results generally favored the oral-aural emphasis and within the limits of the experiment showed that the experimental group was not inferior even in achieving traditional goals. It is hard to generalize from this experiment

because of the extremely small number of cases (incidentally, small sample statistics should have been used) and because the two teaching procedures probably were not so very different. Even the control procedure seems to have been considerably in advance of some teaching methods the present writers have experienced, but on the other hand, the experimental procedures were not especially radical.

Hamilton and Haden (65) reported an impressive series of experiments at the University of Texas, conducted over a three-year period and involving a total of some 2700 students. The work of each year was devoted to a test of a particular problem in language teaching, and for this purpose students were put into contrasting types of courses. Evaluation instruments similar to those of the Agard-Dunkel investigation were used. The results, interpreted with the usual cautions, appeared to suggest the following conclusions: (a) the differences between traditional and oral-aural methods are slight, in terms of student achievement, but the latter have many features which are worthwhile adjuncts to language teaching; (b) it makes hardly any difference, in student achievement on Cooperative tests, whether grammar is emphasized in the traditional formal manner or whether it is completely de-emphasized and taught purely inductively; (c) the development of pronunciation skills is definitely aided by instruction in articulatory phonetics; (d) it is advantageous to use phonetic symbols in teaching French, but phonetic transcription is unnecessary in Spanish because the standard orthography suffices; (e) of the programs "oral drill plus much grammar" versus "little grammar plus much rapid reading," the latter produces higher average scores in Cooperative tests, while results of the former in oral production cannot yet be adequately evaluated due to the lack of appropriate tests.

Several experimental evaluations and comparisons between "traditional" and "direct" methods were discussed in the symposium (60) mentioned previously. Berrett and others (11) reported on a one-year college-level experiment in elementary German. There were three methods taught at the same time of day and for the same number of hours, but there were no controls in the selection of the groups. The experiment had two goals: (a) an attempt was to be made to achieve two years of reading proficiency in one, and (b) oral-aural skills were to be used only to assist reading, no attempt being made to evaluate them. The three methods were these: (a) all oral-aural, (b) oral-aural but with the added use of mimicry-memorization, (c) half traditional grammar and half translation and reading. Berrett concluded that there is little transfer of oral ability to reading; probably because of their smaller vocabulary content, the first two methods produced students who were on the average poorer in reading than those in the third. On the other hand, results showed that attention to traditional grammar is a waste of time since the average student under methods (a) and (b) was only slightly below the national median on a standard achievement test. He felt student motivation much higher in the oral methods. In the same series of articles, Rehder and Twaddell (112) made

a report somewhat at variance with Berrett's. They indicated that the oral-aural approach was as efficient as the traditional one in the achievement of reading ability, even tho students under the first method read only half as much. Meessen (91) found the same result in a study of reading; he compared a 10-hour-per-week direct approach with a five-hour standard method. Since the latter required on the average five hours of homework per week, and the former none, he felt they were equitably matched on the time factor. He also concluded that the conversational approach was better for reading and aural comprehension but not for grammar.

It is hard to become enthusiastic about the experimental designs and statistical treatments used thus far in studies of foreign language methodology. The investigators have usually been language teachers who are not particularly sophisticated in statistical technic. Rarely are the experiments reported in sufficient detail: one often finds only the citation of a few medians, or perhaps some percentiles. Not a single study reviewed here utilized small-sample statistics, to say nothing of analysis of variance or the Johnson-Neyman technic. The latter technic might, for example, be used to study what methods are most effective for different kinds of students.

Achievement Testing

Examination of standard reference works on testing revealed that few new tests of foreign language attainment were published during the six-year period covered by this review; there were certainly few efforts which attempted to strike out in new directions. Exceptions were found in the work of Agard and Dunkel (3), Lado (82, 83), and Bovée (20, 21). Agard and Dunkel improved on previous aural comprehension tests by using phonograph records and controlling the rate of speech, the length of utterances, and the vocabulary. Objective technics of scoring were employed. Less success was had with tests of oral production, where problems of subjectivity in evaluating responses were encountered. It was also difficult to provide appropriate stimuli for spontaneous speech. Lado attempted to circumvent subjectivity in pronunciation and aural tests by making the use of particular phonemes the crucial element in the correct responses. He also emphasized the necessity for preparing the tests in accordance with the particular difficulties a native speaker of a given language would most likely meet. Bovée devised an ingenious method for evaluating the rate at which reading and aural comprehension in French (or any other language) approaches that in the student's native language. His work on aural comprehension suggested that the reception of speech occurs in terms of "thought groups."

There were several studies of large-scale testing programs. Cheydleur and Schenck (33, 34) investigated comparative results for various types of written and oral-aural tests, and recommended the use of placement

tests to insure that students are placed at proper levels of instruction. Shekerjian (127) found on the basis of test results that pupils from private schools were not as well prepared for college French as pupils from public schools. Dyer (48) studied the use of College Board language tests for placement purposes and suggested that their scores were more meaningful than "years of training." In a later publication Dyer (49) stated that scores on College Board tests could not be taken at face value and should be scaled in terms of the recency of the secondary-school language training. Frizzle (56) pointed to the influence of Regents requirements and examinations upon the teaching of French.

Of possible use in connection with foreign language teaching is the series of *Cooperative Inter-American Tests* (7), which are tests of general ability, reading, social studies, natural sciences, and language usage with comparable forms in English and Spanish.

Prognosis of Foreign Language Learning

Relatively little work has been done recently on the important problem of predicting success in foreign language learning. This is particularly unfortunate because it is conceivable that emphasis on oral-aural skills in contemporary language teaching may throw the problem of prognosis in a different light. Whereas the traditional procedures may have put a premium on intelligence or general mental ability, the new procedures may demand more specialized traits.

Wittenborn and Larsen's (142) important factorial study of achievement in German was overlooked in the April 1946 review of this journal. These investigators studied correlations between various aptitude tests and grades in German. Bovée and Froehlich (22) reported correlations between IQ and achievement in French; different results were obtained for good and poor achievers. Williams and Leavitt (140) found that the *ACE Psychological Examination* and an *Army Language Aptitude Test* were useful in predicting success in learning Japanese. McNaughton and Altenheim (89) studied prognosis in German courses and found that the language backgrounds of the students affected the validity of prognostic tests.

Conclusion

The furor which first greeted the "new-type" methods implied by Army language courses has now waned, but the traditional five-fold objective of language instruction has been seen in better perspective, with due weight given to instruction in the living, spoken form of a language. Now the great need is to develop better methods for doing what language teachers have always wanted to do. In this respect, the contributions of educational research and psychology have continued to be meager.

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CHAPTER VII

Music Education

WARREN S. FREEMAN

THERE is considerable progress to be reported in music education research in the last decade. The latent possibilities of significant, objective research in the various branches of music education is being recognized by scholars in the field in a wide range of research areas.

Large national music education organizations, such as the Music Educators National Conference, thru its Research Council and the Music Teachers National Association, thru its committee on research, and the work of individual scholars in various centers of learning are all contributing a heavy volume of research studies. Many are of real worth and are distinct contributions to the literature. Others have many shortcomings. Lack of objectivity, validity, and reliability are the most common faults. There is much "arm chair" research in the field of music education.

The trends in educational research in music education are directed toward the following areas: curriculum organization and supervision of music instruction; historical aspects of music education; various areas of measurement of musical progress, interests, ability, musical taste, and other correlative studies involving measurement and studies in various aspects of the psychology of music.

Supervision and Curriculum

Problems involving supervision of instruction in music have continued to engage the attention of serious scholars of music education. Christiansen (4), in a study of the schools of Utah, reported a comparison made between two groups of school districts in Utah on the criteria of musical achievement. After the use of established musical achievement instruments, it was found that the districts in which musical supervision had been utilized for a number of years showed more significant educational progress in music than in the areas where no supervisors were employed. Christiansen contended that the employment of music supervisors resulted in raising the level of musical achievement. Nye (17) reported a study of cooperative music supervision which employed the so-called "on call" supervision technic in which the supervisor operates on a consultant basis rather than making a periodic visit on a regular schedule. He claimed that the majority of situations studied preferred the "on call" plan to other plans, altho there was a considerable positive minority against the plan.

Lawshe and Wood (11) found significant results in comparing members of student musical organizations with nonmembers in terms of their musical talent as measured by the *Seashore Measurements of Musical Talents*. They contended that membership in a musical organization was a valid criteria

of musical talent. Blyler (2), in a survey of 125 programs of music education instruction, described the various types of music education courses in colleges of education over the country. She stressed types of programs offered and analyses of textbooks and teaching aids used. In the field of experimental education Ahrens (1) gave the results of a study on the characteristic limitations of internal tuning of wind instruments when played by amateurs. Such matters as the effect of temperature on the internal tuning of the clarinet were investigated. Certain trends were noted such as the trend of wind instruments to play more sharply in ascending passages into the upper ranges of the instrument. Important recommendations were included in the study. It was suggested that more attention be given to the room temperature where musical organization rehearsals are held. Ahrens contended that if instruments were manufactured to play in rooms at a temperature of 72° F. they would play in better tune in the hands of amateur players.

Historical

Few significant historical studies were completed during the past 10 years. Among the best is a study by Sunderman (19) in which he reported on the supervision and instruction of music education in the early days of music education activity in the schools. Such matters as the role of the supervisor, the role of the classroom teacher, various instructional obstacles, examinations and textbooks were reported. The author pointed out a gradual change of attitude in the teaching of music from a purely scientific approach to a philosophy of music enjoyment on the part of the pupils.

Measurement

Many studies have been attempted in the field of music measurement. Farnsworth (7) reported the development of a rating scale for musical interest to measure both general and special areas of interest in serious and popular music. His findings showed an interest in serious music as tested by these scales, showing a high degree of correlation with interest in music as measured by Seashore. He also showed the relationship of these scales to the *Strong Vocational Interest Blank*. Lundin (13) reported a study in the development and validation of a set of musical ability tests to measure musical behavior objectively. The test included: (a) interval discrimination, (b) melodic transposition, (c) mode discrimination, (d) melodic sequences, and (e) rhythmic sequences. Validity coefficients of this test were higher than either the Seashore or Drake tests when validated against criteria used by Lundin.

Lehman (12) made a comparative study of instrumental musicians on the basis of the *Otis Intelligence Test*, the *Kwalwasser-Dykema Music Test* and the *Minnesota Multiphasic Personality Inventory*. His results showed a significant difference between the group discontinuing musical study and

those continuing. The higher scores of the continuing group indicated that IQ might be a factor in the entire continuation situation. The *Kwalwasser-Dykema Test* proved to be a satisfactory predictor for musicianship. The *Masculine-Feminine Interest Scale* of the *Minnesota Multiphasic Personality Inventory* was found to differentiate to a high degree between the "continued" and "discontinued" groups.

Wheeler and Wheeler (20) gave comparisons of the results of certain reading tests and other test scores for a group of freshmen college students enrolled in liberal arts, business administration, music, and education curriculums. Results showed that music students were not superior to non-music students in intelligence and reading ability. In another study by Farnsworth (6), members of the American Musicological Society were polled to obtain rank of eminence and contribution of composers. On the basis of the compared results, weights were assigned and a list was obtained, the purpose of which was to provide the music educator and performer with objective data against which individual evaluations could be compared in a measurement of musical taste. The list was found to have an odd-even reliability of .80+ for children at the junior-high-school level and a reliability of .70 for college students. Fisher (8) reported a study of different age and socio-economic groups in unstructured musical situations. No clear-cut preference difference between the experimental groups manifested itself.

Psychology of Music

Recent research showed outstanding progress in the development of an experimental psychology of music. In reporting on this subject, Diserens (5) stated that experimentation in the psychology of music has been developed to a very advanced stage. The effects of listening to music as it influences the bodily processes has been described, as well as the types of the experimentation and the experimentors in the field of emotional study. He reported that much of this experimentation was based on psychological-musical esthetics, physics, anatomy of auditory apparatus, anthropology, genetics, phonetics, and linguistics. He further observed that the field of musicology correlates musical composition with definite moods, and embraces the entire field of musical research.

Continuing in this field, six principles for music memorization were determined thru objective technics in an experiment by Rubin-Rabson (18). The need for intensive study of each composition before any performance is attempted was stressed as an aid to memorization. This technic was shown to cut the memorization time almost 50 percent in comparison to keyboard-centered memorization. In a review of the literature on absolute pitch Neu (16) emphasized the need for an adequate explanation of absolute pitch. His research indicated (a) absolute pitch, in lesser degrees of discrimination, can be acquired; (b) behavior that entails pitch discrimination gives a greater opportunity to develop keener pitch discrimination; (c) pitch discrimination can be acquired more readily at an early age; (d) the de-

velopment of keener attending to stimuli makes for keener development of pitch discrimination; (e) behavioral development is subtle; that is, individuals who have built up keen pitch discriminations may suddenly realize what they can perform. The dynamic music factors in mood were attributed in a study by Gaston (10) to rhythmic influence: *legato* and *staccato* sounds. Mood change found in dance, march, chorale, and lullaby music were exemplified. A definite influence of music on muscular tension was noted.

Musical Behavior

In a study of the emergence of musical behavior, the beginnings of certain universally present basic tendencies that were thought to provide the key to a universally applicable system of control were observed by Fultz (9). Musical behavior was found to emanate from universal impulses, making control and guidance of each behavior accessible. These basic music skills were determined to be (a) rhythmic structure, (b) melodic contour, (c) tonality, (d) harmonic sequence, (e) tone color (vocal and timbre [instrumental]), (f) dynamics, (g) technic. These basic skills were observed to be the universally available means of human adjustment to stimuli and are not specific talents. A psychological study of a somewhat different nature by Mull (14) indicated that music without title or program notes can express humor. The objective feelings of 30 "musical" college students while listening to three selected recordings showed that there was much unanimity of opinion as to which regions in music are humorous; that music with or without title or program notes can express humor; that sources of humor are both intrinsic and extrinsic. It was suggested that a quick motor shift (*volte-face*) is the basis of humor, in conjunction with a nonpractical attitude.

In studying growth gradient in music, Mursell (15) identified 10 growth steps in the sequence of musical development: (a) undifferentiated but significant emotional responses to tone; (b) beginnings of differential response to tonal patterns; (c) beginnings of pattern-wise differentiation; (d) beginnings of responsiveness to different tonal media; (e) beginnings of responsiveness to different types of music; (f) beginnings of response to and interest in the rhythmic component; (g) beginnings of contact with standard instruments; (h) beginnings of definite achievement with the performing media, particularly the voice; (i) creative and compositional activities differentiated more explicitly; (j) true specialization. Brady (3) in a somewhat similar study described song as an emergence, not an inborn talent. Biolinguistic principles were stressed as having outstanding importance in the teaching of song and speech. Viability, coordination, and epirical associative gradients were set forth at various levels of emergence. It was suggested that since the Seashore pitch test is a measure of emergence in its final stage, it is not a measure of aptitude but of achievement.

Considerable progress has been made in university-centered research in

music education in the past decade. The volume of research has been heavy and altho much of it is of unreliable quality, certain studies have been valuable contributions to the literature of educational research. There are signs that music education is coming of age. Its research results are one indication of this fact.

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CHAPTER VIII

Fine Arts

RALPH L. WICKISER

MUCH of the literature concerning the fine arts is descriptive, due largely to the *nature* of the art activity and the problem of analysis of its components. Attempts have been made to apply scientific methods of inquiry into the fundamental problems of creation and appreciation of art with little success. This may be due in part to a lack of understanding and agreement as to the function of art, the nature of the creative process, and the appreciative act. Unfortunately little correlation can be found between the speculative theories of estheticians and the purposes of practicing artists or art educationists.

Most research in the fine arts starts with rational hypotheses based on the nature of art products rather than empirical investigation of the physical and psychical nature of art as one continuous human process of creation, culminating in appreciation.

Investigations should be undertaken by objective researchers into those aspects of this total art act which *can* be scientifically measured to determine whether there are significant correlations between physical being, mental states, emotional attitudes, feeling and creativity.

Esthetics, Appreciation, and Criticism

A re-examination of the fundamental purpose and scope of esthetic procedure occupied a number of writers. Aiken (1) proposed searching for an empirically scientific esthetic. To achieve this demands a strict adherence to logic in all proceedings, and the use of empirically provable facts, judgments and standards only. The subjectmatter of such an investigation would include only esthetic modes of experience, would consider all esthetic phenomena that the mind is capable of attending, would take into account the cognitive as well as the affective faculty, and would make a more thoro investigation of the intrinsic value of esthetic experience. Weismann (103) discussed the creative process as an active critical participant. He believes that a great deal of the confusion in contemporary esthetics stems from unqualified judgments. Art historians can deal only with the chronologies in which art works and movements find places and historical logic. Bayer (12) sees the need for a more ordered approach for he stated that historically esthetics has been a series of philosophical systems of beauty. A method dates from the nineteenth century. As a solution to the apparent paradoxes that exist in esthetic thought, he suggests operative realism in the place of mental systems, which is more precise. It demands, in short, a physics of art. Feibleman (37) agreed, stating that art is fundamentally rational. It seeks objective value. Hospers (52) critically analyzed the concepts which reoccur inevitably in art criticism.

The influence of scientific thought on art is shown in the more objective approach to esthetics, and from a preoccupation with the physical concepts of time and space. Souriau (99) showed that art creates its own universe and so has dimension, aspect, rhythm, and tempo. In art, he said, time is mastered, fashioned and formed to vary it. Berkman (14) stated that contemporary art space concepts are qualitative while Renaissance concepts were quantitative. Calas (23) wrote that the basic function of art is not solving technical form problems but that of helping one overcome fear by developing a space consciousness. In relation to this Biederman (17) attempted to show that the artist has oriented himself to the world in which he existed. This mode of orientation has progressed and/or regressed since Paleolithic times. He predicts an era of mass-produced, machine-made art centered in the United States.

Further relation of art and science is indicated by Laporte (63) who thought that new concepts in painting could be correlated with those in physics. He claimed that art shifted to a new conceptual abstraction when it found that exclusive emphasis on perception was in itself a concept. Gauss (40) indicated a similar parallel or analogy in the development of philosophic thought and esthetic theories of French artists from 1870 to the present. Garrison (38) added his view to that of Laporte in relation to the shifting to a new concept of art because he indicated that historical art and contemporary art cannot be compared for reasons of their difference in concepts.

Gasset (39) and Mirabent (74) see this movement toward the objective as a reflection of the general trend toward dehumanization in our society. Mirabent in tracing esthetic development in Spain sees a moving away from the present elemental state toward a participation in the general unrest concerning contemporary esthetic concepts. Gasset believes, and so stated, that this dehumanization in esthetics is part of a general social trend in this direction and sees this leading toward an art that is only intelligible to the artist and consequently hateful to the bourgeoisie, in a sense dividing society into two classes and thus saving it from the fallacious assumption that all men are equal.

Opposed to the apparent trend toward the objective method of esthetic investigation is Carmichael (26) who claimed that an objective criticism is in contradiction with the meaning of art, since art is autonomous, unique, and free. There is some substantiation for this view from Boas (18) who, in discussing Aiken (1), agreed with a more objective approach but took exception to its rigidity when he stated that other activity besides esthetic activity has relevance, that art is the satisfaction of human interest as well as technical form manipulation, and that esthetic values are both terminal and instrumental. The case for subjectivity is reinforced by Pepper's (83) psychology of taste based on intellectual judgment, by Giedion-Welcker (43) who sees the beautiful as the accidental and who said whimsey and irony are the key to art. Guggenheimer's (47) theory that the artist works thru insight to the intuitive perception of wholes would

seem to add a qualification to this trend. Berenson (13) stated that art has a tonic effect in that it gives the appreciative observer a state of well being. The business of the critic in this view is to apprehend the qualities that make for this state of well being and to make the public aware of them. Appreciation is "ideated" by the work.

Some mediation between these apparently antagonistic points of view is attempted by Romanell (94) who stated that tho there is no common ground, theoretically, between the realistic point of view of Dewey and the more idealistic concept of Croce's, there is agreement on the basic assumption that the proper subjectmatter of an art philosophy can be nothing but esthetic experience. This seems in agreement with Aiken's premise but differs from Boas's assertion that experiences alien to esthetic quality may have relevance in art activity. Giedion (42) concludes that an equipose between the rational and irrational, temporal and eternal, between the human body and the cosmos is vital.

Another point of discussion in this re-examination was a concern with the esthetic object and its effect on the spectator. The esthetic concept of psychical distance reviewed by Chandbury (28), who stated that Indian esthetics of the tenth century pivoted on this single concept: the deindividualization of the esthetic object. In view of the preceding discussions concerning the trend toward dehumanization, this has specific relevance. The Indian thinkers of this period conceived emotion expressed in art works as universal in nature and as existing independently of the individual, with the spectator neither anxious to continue nor anxious to stop it. Specifically, joy, pain, and other emotions are felt but in a manner foreign to the real, that is the practical and scientific effects of these emotions.

Further discussion of this relationship was expounded by Muller-Freienfels (77) who held that art works manifesting the object are more valuable if they make visible aspects that the eye does not see. It is necessary to understand why the artist departed from the so-called visual representation of the object. Pictures of this sort, in his opinion, substitute free creations of the imagination for reality. Thus, he said, art becomes symbolic by making visible what we cannot see. Ivins (57) sees this relationship as a duality, as a work of art and as an object. The art quality or wholeness of effect cannot be described and must be seen to be appreciated. The quality of the object, however, can be described.

Thru a psychological investigation of the creative process, the critical theory developed by Isenberg (56) distinguishes between critical communication and nominal communication because symbols tend to become independent of sense-perception. Critical communication is apt to be hindered by the artist's sensorial reactions. The psychologist may ultimately have to supply the causative explanation. The psychologists have come to believe, according to Arnheim (3), that expression is the primary content of perceptual experiences. Expression must predominate because it is the key to meaning. Potter (86) discusses the new possibilities for expression

such as (a) color music with the organ, (b) abstract films, (c) abstraction in the dance, (d) other forms of visible music, and (e) sound to sight translations of speech.

Psychology and Psychoanalysis of Art

The impact of psychological thought has been felt in art and esthetics for some time. In recent years the influence of psychoanalysis as a method of diagnosing the artist's behavior, the nature of the creative process, and the purpose of art in society has received considerable attention.

Not all investigations of a psychological nature were objective. Malraux (72) in a series of books on the psychology of art concludes that such a study is not concerned with the analysis of perception but should stress relations between the art object in its cultural setting, the creative act, and recreative pleasure. He states that due to the comprehensive pictorial art history made possible thru photographic reproductive processes, art objects lose their contextual placement and assume new meanings. This change in view toward the art work tends to isolate the "creative act" and produce more clearly the artistic substance called "style." Style now means more than organized forms expressive of a period or people; it is a system of organized forms, owing nothing to imitation, which defies the scheme of things thus creating the world anew. Art generates art and in so doing opposes the pressure of the outside world.

Reitman (92) offers an antidote to the spicy esthetic vagaries of our own psychoanalysis and distrusts psychological explanation. He says that art is a mental manifestation based on human cerebral function. In the psychotic product the lack of structure derives from the disintegration of perceptual relations and concepts whereas the modern artist restructures deliberately. To the schizophrenic pictorial distortions are real and symbols are taken literally. The schizophrenic paints to adjust himself to his altered reality.

According to Schneider (96) the neurotic source of art is an illusion. Art is not primarily a therapy for the depressive effects of violent and intolerable aggression. The Oedipus complex is perhaps the underlying cause of all artistic conception. Schneider also concludes that symbols tend to disguise unconscious insight, yet a work of art has a peculiar symbolic prehistoric power.

Analyzing an artist's reaction to oppositions from the real or practical world, Schneider (95) showed that the criticism of Picasso's first big show gave him a personal sense of failure. From this time he has continually striven for the new, the imaginative, and the fantastic as an assurance from being called imitative or sentimental. His imaginative discoveries can be summed up thus: (a) an infusion of forms with a highly psychic tension achieved by various forms of distortion, and (b) an intuitive investigation of time and space relationships with reference to the mass and dimension of the body.

In concluding that there is an analogy between the artist's inspiration and the dream, Born (21) pointed out that both are based on the dynamics of the unconscious, but that the transformation of inspiration into a work is essentially a conscious activity. Further examination of creativeness by Lee (64) showed that during this process two distinct classes of feelings were projected by the artist: (a) the emotion that is projected in time and space relations as esthetically moving forms, and (b) the feeling that is expressed in the subjectmatter.

Lowenfeld (68) found in the blind the purest form of nonvisual creations.

Rau (89) compared the theories of play of Schiller, Spencer, and Groos. Groos takes play seriously—not all play is trifling and dalliance, it is not mere fun. Much so-called play is earnest and creative. It is always important biologically and sociologically.

Evans (35) in discussing color stressed the physiological, physical, and psychological aspects.

Gibson (41) proposed the theory that visual space-perception is reducible to the perception of visual surfaces. He made a tentative list of phenomenal properties.

Learning and Creativity in Art

Fostering creativity has become a main consideration in the learning process in the field of education, as was pointed out in the yearbook of the Association for Supervision and Curriculum Development (6) which stated that the school must help the student become a creative individual—creative in his approach to people, problems, and materials. Dorner (33) also advocated a creative approach to human problems, saying that there has emerged a new interpretation, one which gives promise of serving as a basis for the integration of the arts with our present society, stating too that educators should be more concerned with creative growth than with so-called timeless truths. There has been like interest in the benefits afforded students thru creative experience in art. Hubbard (55) stated that creative experience with art developed better citizens because of the understanding and appreciation which comes thru art. Welling (105) fortified this point of view by saying that a creative art process acts as an inspiration both to the doer and to the observer, causing them to have a more inquisitive, interpretive outlook toward the world around them. Acknowledging the need for creativity in education, particularly in art education, several writers have defined creativity in relation to art. Among them being Pepper (82) who stated that a work of art was a creative achievement if the demands which arose out of that work were satisfied within it. Pepper also said that creativity was not involved in any way with the mastery of a particular technic or the copying of another artist's style or painting, and that the realization of these facts was necessary in the education of an artist, an art critic, or an art historian. Dewey (32) defined arts and their

creative esthetic experience as intentionally cultivated developments of a primary esthetic phase. Portnoy (85) in a paper concerning a psychological theory of artistic creation, said that a creative act involved the conversion of human emotions which seek and find expression thru the artist's sensitivity to formal design and his mastery of a technic, which enables him to make concrete his visual and auditory phantasy. Further stating, that as a result of the sensitivity with which the artist reacts to his environment, he (the artist) must of necessity create if he would retain his sanity. Portnoy advanced the theory that artistic creation was elicited in two ways, spontaneously by external stimuli, or consciously by indulging in thought meant to bring on a mood conducive to creation. Portnoy rejected mysticism in artistic creation by stating that no work of art has as its inspiration anything other than what is ordinarily accepted as reality because the artist is not divinely inspired, nor is he a prophet of the future, but rather a creative artist who becomes aware of the happenings of his generation prior to his contemporaries. Morgan (76) pointed out that psychoanalytic-esthetic hypotheses were not entirely invalid, but were limited in that analyses of the unconscious were in themselves hypothetical. Other writers have been concerned with means of eliciting creativity among students. Arnheim (4) advocated a sound educational basis for students of art, an education which enables the artist to grasp the whole situation and the ability to use the essentials in an original manner for the purpose of reaching a goal, also stating that there is a visual reasoning similar to theoretical reasoning. Clarke (29) advocated the "non-system" of Korzybski which rejects the assumption that words can tell all about a nonverbal object. He found that orientation in nonverbal thinking leads the way to predictability in the process of abstracting. Herring (49) warned against the use of an academic procedure in attempting to elicit creativity, which blunts the student's natural growth in art by setting before him false adult standards. Herring also pointed out that the teacher in such a case must be just as willing to learn as he expects his students to be, if creativity is a value in his art program. Pepper (84) put forth a theory that creativity is only advanced with the student's increase in interest brought about by association with a teacher who is a creative artist. Weisskopf (104) discussed the role of education in the creation, saying that creative insight often comes best when the student is freed from carefully controlled intellectual technics such as "industry," "regular study habits," and a "critical controlled attitude." Writing further, Weisskopf said that educators may find it profitable to practice a passive attitude as a stimulus during a specific phase of intellectual and creative work. Giving the student the possibility to express himself freely and boldly, and demanding that the student do so in compatibility with his inner needs was the viewpoint of Burlin (22) who also said that a teacher of art should be concerned with the intuitional awareness of his students. Welling (105) advanced the viewpoint that it is the teacher's obligation to allow freedom of expression thru direct experience in art, thus building confidence and providing a

stimulation for further work. The yearbook of the Association for Supervision and Curriculum Development (6) pointed out that experimentation was necessary to creativity, but that spontaneity alone presented no challenge to the student, adding the belief that it is a misconception to analyse the art act as if it were based on maladjustment.

Studies in Appreciation and Teaching Method

The growth and influence of art's importance in the school program continues to interest writers. Shackson (97) reported on experimentation with an adoption of a general education course on the college level in music and visual arts offered to students in other college departments. In connection with the trend toward art as a general subject, the increased importance of the art teacher in the school program became a subject of interest. Howell (54) discussed the art teacher's role in the total school program from the viewpoint of modern educational aims in which the art teacher becomes a guide and resource person aiding the growth and development of the students. In order to develop such teachers, Alford (2) urged training which will equip the individual with historical, philosophical, as well as technical background thru the humanities and other courses which deal in ideas, values, thought, and feelings. The aim of these educational concepts is total personality development, and on this basis the creative process is emphasized over the final product. In order that the teacher acquire the necessary psychological insight into creative experience, understand materials and how the child finds his own expression in terms of them, Lowenfeld (67) recommended active creatively productive teachers. Jules (59) discussed the benefits to both artist and school when the creative artist as a teacher brings his theoretical and technical knowledge and first-hand understanding of the creative process to the school. Masley (73) maintained that changing philosophies in art education have resulted in a cleavage between fine arts and art education programs thru stressing individual adjustment over the end product. This has caused the professionally trained artist to dismiss the art education program as inconsequential, emphasized the complexity and importance of establishing a program of evaluation which is closely interwoven with all aspects of learning and instruction, and which would furnish the teacher with a means of self-inspection and help the student in his growth. McKibben (70) listed the various resources of the art teacher and commented on their uses in the art class.

Pepper (83) writing on art appreciation discussed the psychological and esthetic qualities contributing to success or failure in works of art, and pointed out aims and functions of art. Halperin (48) combined art appreciation in an eleventh-grade literature class with an experiment in creative writing using large reprints of famous paintings as stimulation. The form and content of the paintings were discussed, keeping in mind similarities and differences between the art forms of painting and literature. The class

was given the problem of writing a short story, series of impressionistic sketches, or dialog from the viewpoint of an observer projected into some part of the paintings. An appreciation of the beauty and interest which can be found in the ordinary neighborhood was reported by Howell (53) as an effective stimulus for creative expression in different media for high-school art classes. Appreciation on the elementary level was studied by Ringham (93) who reported on children's preferences for textile patterns based on data from a study in which 521 children between the ages of six and 15 were shown a series of modern Occidental, Oriental, African, and other patterns and asked to state their preferences. The average child interpreted choice in terms of general, personal, and associative qualities, but children with some degree of art training appreciated patterns for technic, line, shape, texture, and originality.

Carter and Fox (27) conducted a survey of art practices and attitudes of elementary teachers using questionnaires and sampling technics which gathered information on distribution and extent of activities in art, time devoted to art, art background of teachers, and other aspects in the teaching of art. Findings were compiled and expressed in percentages and fractions. Altho art activities were found to be wide in range thruout the area covered by the survey, there were many schools with inadequate provisions for art and a few with no art at all. It was noted that time devoted to art increased with the size of the community and that teachers in larger cities received help from supervisors and teaching aids, while there was little or no help in the rural areas. There was great dependence upon holidays and seasons as sources of inspiration, and 40 percent of the teachers reported occasionally dictating the art lessons. Most reported facilities as inadequate, 25 percent had none, and only 5 percent stated that they had adequate equipment. Only 7 percent reported adequate materials and supplies. Less than half provided for creative self-expression experiences in the art period, less than one-third provided for esthetic appreciation. Fifty percent of the teachers felt confident of their ability to teach art, with smaller percentages claiming a lack of ability, training, or supervision; 60 percent believed that art should be taught cooperatively by classroom and special teacher. Few elementary teachers had more than a small amount of art training; 40 percent claimed that the attitude of the community toward the art program was one of indifference.

A trend to revive the humanities as a balance for the sciences in education was discussed by Rannells (88), who stated that some colleges have attempted to bring philosophy, literature, and fine arts under a humanities division in the development of a general humanities program. Methods, administrative procedures, and content of courses were suggested.

Tests and Measurements

Barrett (9) undertook an investigation to determine the validity and relation to intelligence of the *McAdory Art Test*, the *Meier Art Judgment Test*, the *Knauber Test of Art Ability* and the *Lewerenz Tests in Funda-*

mental Abilities of Visual Art. A criterion of art ability based on judgments of pupils' classroom work was established. Sixteen classes were given the McAdory and Meier tests. A smaller group was given the Knauber and Lewerenz tests. Coefficients of correlation were worked out for each of the tests with each of the other tests, with the art ability criterion, with intelligence quotients, and with school marks. Partial correlations were then calculated keeping the intelligence factor constant. It was found (a) that the McAdory test is of little value in predicting success in school art; (b) that the Meier test has some predictive value, so far as success in school art is concerned, but this value is less than that of school marks; (c) that intelligence influences art test scores and significant with this correlations were found in all except the McAdory test; (d) that factors which determine success in other school subjects, such as work habits and attendance, play only a small part in determining success in art tests and school art; and (e) that art ability is measured reasonably well by both Knauber and Lewerenz tests. Barrett stated that these tests have high predictive value regarding success in school art but believed that they were primarily achievement tests rather than tests of native ability, and scores are influenced by nature and amount of previous art training.

Reporting later on the McAdory and Meier tests used in determining sex differences in art ability, Barrett (10) again used criterion based on classroom work on Grade IX level. The conclusion based on the results showed that Grade IX girls made higher average scores on these tests as well as on school art exercises. Prothro and Perry (87) worked with the Meier test with four groups each composed of 100 individuals; the first group from a university for Negroes, the second from a university for whites, the third from a city high school for Negroes, and the fourth from a city high school for whites, in an attempt to determine if membership in the groups studied is associated with the differences seen in test performances. It was found that whites rated significantly better than Negroes, college groups better than high-school groups, but no noted differences based on sex differences were indicated.

Woods and Boudreau (107) reported on experimentation attempting to determine the influence of design complexity on visual processes of artists and nonartists. Brandt's technic for measuring differences in eye movement with the bidimensional camera was employed. Two charts were prepared with the area divided into four sections, and in each section a black and white, nonobjective design was placed, proceeding in complexity within the four sections of each chart. Charts were placed in position on the rack of the camera, and subjects were asked to review the designs for eight seconds. They were not told what to look for. Responses were analyzed in terms of (a) mean time spent by each group in observing each area of each chart, (b) percent of total time spent in viewing each area of each chart by each group, (c) percent of initial fixations made in each area by each group, (d) percent of total eye fixations made in each area. Data suggested that differences do exist between artists and nonartists and

between age groups regarding design complexity as a determinant of visual attraction, and that art groups are more sensitive to more complex design units than nonart groups.

A test to measure creative thinking was administered by Dougan, Schiff, and Livingston (34) to 33 employees in the display department of a large department store using the *Welch Reorganization Test* in which the subject recombines familiar ideas according to four different patterns. The test assumed that the ability to recombine easily and reorganize ideas according to a specific plan is essential to all types of creative thinking. It was divided into four parts, three using written material and the fourth using blocks. The subjects, who included artists, display men, designers, stylists and executives in charge, were rated by their supervisors using a five point rating given by the supervisors and the scores from the test. In two previous studies the test was given to 30 professional artists, 25 art students and 48 unselected students. It was found that there was a statistically significant difference between the professional artists previously tested and the display personnel. Display personnel were superior to the unselected students on two of the subjects. These results indicate that there is a possibility of measuring originality as it would apply in the fields of advertising and display.

Woods (106) investigated the role of language handicap in the development of artistic interest. The evidence presented indicated that a negative correlation exists between artistic interest and academic accomplishment measured in terms of grade completed in school and ability in the *Army Alpha Test*, that a positive correlation exists between artistic interest and mechanical ability, and that a negative correlation exists between verbal and computational interests and artistic interest.

Berman, Klein, and Lippman (15) reported on the use of human figure drawings as a projective technic and as a supplementary source of information for other standardized projective tests. The test was given to 100 psychoneurotic patients, each of whom was asked to draw a human figure on one side of a sheet of paper and then to draw another figure of the opposite sex on the other side of the paper. Psychologists found the drawings of value in describing a patient's personality structure and in detecting emotional difficulties or maladjustments. These findings were compared with results psychiatrists had obtained from the psychiatric interview technic. Points of agreement established the reliability of the human figure drawing test as a projective technic.

A new method of scoring tests for color-blindness was investigated by Reed (91) who claimed that error scores in the measurement of *degree* of color deficiency were inefficient. Using a panel containing 48 red and green jeweled lights, Reed ran a preliminary test with the lights at full voltage. The subject sat before the panel near two telegraph keys and was told to press one if the lights were all the same color and the other if some of the lights were different. The scores were found to be high for the color-blind subjects because the bluer characteristics of the strongly

lighted greens made them distinguishable from the reds. In the actual test the green lights were lowered in intensity by the use of filters. This caused them to become more yellowish and consequently closer to the red light along the confusion line for the color-blind subjects. Error scores again favored the color-blind participants but reaction time records showed a significant lag between switching of the lights and the choice.

Beverly (16) defined evaluation in art teaching as "a means of helping the student in his growth" and from this definition she set forth some of the needed criteria for evaluating the teacher as well as the pupil in art education.

Wrenn and Dreffin (108) tried to determine criteria for selection of a vocational sequence in commercial art at the University of Minnesota General College. Criteria were believed to be found in spatial relations ability, scholastic aptitude, and vocational interest profile of art laboratory students.

A test for spatial relations ability was devised for art laboratory students. Conclusions indicate a commercial art sequence for general college art students possessing above average spatial relations ability, liberal arts freshmen with above median scholastic aptitude, and those who have a vocational goal in commercial art.

The problem of measurement in art led Gordon (44) to conclude that relevant variables are too many and too subjective to allow for scientific measurement in art.

Art Education

Recent research and articles concerning the directions of art education indicate a continued investigation of previously established trends. The desire to establish art as a part of an integrated educational program in order to develop in everyone creative and intellectual capacities on an individual and group basis, concerned many writers. The important role of the creative act in developing awareness, understanding, and better citizenship is being felt on national and international levels. There is evidence of attempts to have art accepted by a wider audience, utilizing to a greater degree facilities long neglected or only timidly utilized such as the newspaper, radio, television, and industry. Investigations show the need for further study in philosophy of art education to implement art teaching methodology.

Hirsch (50) was concerned with the direction of art education. He discussed its trends and showed why certain views are held. In 1951, for the first time, a yearbook was published by the National Art Education Association. Ziegfeld (111) points out that it not only is the first professional yearbook of a national art education organization, but also that it is concerned entirely with professional art education problems and issues. This represents concrete proof of an increasing maturity of the art education field.

Ziegfeld (110) pointed out the necessity for education which would lead to a more integrated pattern of individual and group living. He emphasized the need for emotional development saying that art activities are the means of accomplishing this aim. He suggested that the greatest need might be a more adequate general education among teachers and administrators.

Parkhurst (80) studied 100 children of different age levels, from different schools, showing that the children are aware that art is emotional articulation and that practice is of prime importance. They indicated preference for the teacher who allowed freedom of expression.

Ziegfeld's (110) attitude was supported by Young (109) who pointed out that various aspects of our culture have robbed today's man of his right to use his creative capacities fully. He emphasized that mass media of communication has contributed to this tyranny, showing how the student today can expose himself to hours of listening and looking but is seldom allowed to participate. Educators have not used these channels as they should and are particularly guilty of using commonplace material.

The College Art Journal (30) urged the development of art in general education thruout the world, calling for greater utilization of art to strengthen international cultural understanding. Recommendations were made for establishing a system of national committees and an international council for the arts in general education. Greene (46) pointed out that mankind could avoid disaster thru cooperation in widely shared art activities and inspiration toward noble things by the influence of creative artists. Dangers may be found in each of these approaches if the artist's leadership fails. Art education may establish the proper relationship between artists and community if a nonauthoritarian program can be established.

Barkan (7) explored the value of art education to society and stated that the development of social values developed as we acted, was involved in the way we acted, in the way we reflected upon what we did, and in the way we tried to achieve promising purposes.

The social needs of an art program was explored by Johnson (58). He maintained that the program should be democratic, allowing for freedom of action and choice, having the active participation of all concerned. He pointed out that the art administrator should not direct the program rigidly, but should be more like a consultant. Baumgarner (11) concurred with this point of view, discussing procedures and problems of initiating an art program. She advocated knowledge of psychology, sociology, child development, with the ability to inspire others to contribute, for "the art resource person."

McMenamin (71) called attention to related aspects of the arts, citing the need for art to become a part of an integrated system of education able to explain all human acts. He advanced the belief that the universal nature of the expressive act is the common denominator of all the arts and pointed to the teacher and administrator who understands this as the greatest need in an art program. The objective of such a program would

be behavior changes that have significance. The most important single insight to be gained is comprehension of forms as an aid to perceiving systems of meaning.

Pearson (81) pointed out that if the arts are to be factors in integration of modern living, they must play a similar role in the life and education of the child. He listed the components of creative art as being penetrating vision embodying (a) an adventurous spirit, (b) interpretation of the subject into symbols, (c) self-expression thru creation, and (d) design. How each of these works toward integration of life activities is discussed.

Logan (66) drew a comparison between Froebel's Kindergarten and the Bauhaus. He said they were alike because both were classical art academies which stressed education thru vision, the sense of touch and by means of the tools available. He pointed out how both the Bauhaus and the Kindergarten have influenced subsequent teaching on their respective levels. He suggested that presentday kindergartens might take a suggestion from the Bauhaus movement and go back to some of the disciplines of Froebel's Kindergarten.

In discussing teaching methods, Landis (62) advocated a meaningful approach which offered valuable material on developmental learning. Her approach was concerned with the new directions suggested by Dewey: (a) purpose is essential, and (b) there must be some relation between the means and accomplishment. The method supports the Bauhaus objectives in its concern with esthetic qualities such as beauty of materials, beauty of form, and beauty of meaning.

Greene (45) studied basic concepts in art teaching. He pointed out that these concepts have been borrowed from general education. In advocating alteration of the concepts, he suggested that the principle of increasing independence should be changed to one of increasing definiteness of instruction. The principle of socialization should not hamper art students thru group opinions. The objective viewpoint should be replaced by the creative attitude and the preoccupation with flexibility should not stymie the artist. Trauger (102) discussed a method of related teaching on the college level to understand expression in the various arts. The program consisted of a cooperative system of two-hour classes three days a week, alternating in art, music, and English.

Hirsch (51) mentioned relaxing the standardized admission procedures in colleges in favor of straight thinking rather than procedures concerned only with accumulating a mass of undigested subjectmatter. The Educational Policies Commission of the National Education Association (78) called attention to the need for leadership and suggested that the school can help by identifying their gifted students and providing appropriate educational opportunities for them. Lissim (65) found vast differences in art programs in adult education thru a questionnaire sent out to 114 universities, colleges, museums, art schools, and libraries. The role of the classroom teacher in the improvement of art instruction was discussed by Fairchild (36). She emphasized the need for teachers to provide pupils

with a creative approach to living thru art activities with whose processes and procedures she is familiar. The need was pointed out for a special art teacher working on a flexible schedule to allow time for planning with the groups and classroom teacher. Siedschlag (98) illustrated the value of a resourceful teacher in meeting art needs in the school.

A forum sponsored by the *New York Herald Tribune* and New York City Board of Education (5) developed the theses that (a) since art is individualistic, it should be a basis for education in our democratic system; and (b) awareness of art and its vital role in contemporary life cannot be initiated on a school level unless teachers are alert to current cultural forces. Tetkowski (100) reiterated this need when he pointed out that the art teacher had to bring art to the whole community. The relation of the teacher to society was further explained by Olsen (79). He pointed out that everyone who affects the choice of others could be termed an art teacher. The professional art teacher, properly developed, can affect the taste of the community more effectively than others and at the same time counteract the effects of bad taste imposed by would-be art teachers. Kainz (60) mentioned that teachers need to develop a sound personal and professional philosophy.

Barkan (8) stated that the core of a teacher training program should recognize the position of the arts in our culture and education. He maintained that the teacher in training should be allowed to develop his own point of view in order to grow in ability and understanding. Pepper (84) stressed the importance of the art teacher having knowledge and feeling for his subject. He insisted that the education of a trained art teacher should be centered in the art department of colleges. Danger of authoritative imposition from false conventions may arise in educational theory with no genuine art value, he stated.

A thoro examination of the problems involved in the determination of teacher qualifications in art was made by the First Committee on Research of the Department of Art Education of the National Education Association (31). The members set no hard and fast listings of courses or didactic standards for a program. They furnished concrete ideas encompassing areas of experience which characterized the work in particular courses. They also maintained that training should provide creative art experiences for prospective educators. Such experience should be followed by training in methods of teaching art and then practice teaching. They considered the personality factors of good art teachers and recommended better techniques for selecting candidates in colleges. The report explored problems relating to specific types of art teachers ranging from general classroom teachers thru college art teachers and art supervisors.

Art and Personality

The theme of personality development thru art has continued to occupy the attention of art educators and psychologists. There was also research

on the use of art as a clue to understanding normal and abnormal actions thru self-analysis, observational analysis, and analysis of intentions in art products.

Read (90) wrote on discipline in art, pointing out that freedom in education is misunderstood and abused. He pointed to the benefits of correctly controlled discipline and stated that spontaneity holds the secret of life's problems. Vitality is voluntary. Discipline is a state of being, an achieved perfection. He maintained that child development could be built up as a sequence of unconsciously acquired disciplines showing that this type of discipline integrated the individual with the group and still allowed him to retain his own individuality. Basic human needs were discussed by Timmins (101) who compared growth in plants to growth in children, saying that both grew by their own creative energy. This and other factors revealed to him the basic human need to act, to go thru the dynamic process which is creative expression. He indicated that cooperation rather than competition was the keynote of survival and pointed out that the great problem in our schools is to teach the common learnings required by the culture without denying the psychological growth of the individual. He pointed out that art educators face the challenge and opportunity to put into practice permanent values of the arts for personality development. Cane (25) followed this trend by emphasizing the cathartic value of art as an integrating force in personality growth. Her teaching method seeks a solution by adopting the clinical technics of psychology, because of her belief that creativity is dependent on psychological integration.

Machover (69) conducted a study concerned with personality based on the assumption that there was an intimate tie-up between the figures drawn and the personalities of the draftsmen. Modell (75) used drawings as a means of personality investigation. He found that psychotic drawings are evidence of regression. He found that drawing changes correlated with recovery to a significant statistical degree. Studying a paranoid schizophrenic Karland and Patti (61) found that his art productions indicated aggressive trends towards women. His symptomatology demonstrated fear of hurting his mother. It was believed that his symptoms were lessened thru drawing. Campbell-Fisher (24) ran experiments in which a given title is associated with its corresponding "montage." There was agreement on the nature of the expression quality of these "montages" since a high percentage of title appreciative agreement resulted. Some possibility that the more naive felt these relations more directly was also indicated.

Borg (20) made a study of the relationship between general intelligence and art success in college. He reported that in tests run at the University of California using the *A. C. E. Psychological Examination*, evidence indicated a positive relationship in the degree to which success in college art correlated with artistic ability and a low positive correlation between IQ and artistic ability. In another study Borg (19) isolated some specific factors relating to art school success. A group of 90 advanced students of the California College of Arts and Crafts were given four standardized

tests on adjustment, mental alertness, mechanical comprehension and vocational interest. Findings indicated that in the group tested persons of artistic ability do not deviate reliably from the norm in the personality traits tested. No relationship was found between success in art courses and linguistic intelligence, as measured by the *Thurstone Test of Mental Alertness*. The art group was superior in linguistic intelligence. The group tested was relatively weak in abilities measured by tests yielding "Q" scores on the Thurstone Test. Art students scored higher than technical high-school students on mechanical comprehension as measured by the *Bennett-Fry Test of Mechanical Comprehension*. There was no relationship between mechanical comprehension and intelligence within the art group, but in most groups tested there is a statistically significant correlation. No relationship was found between success in art courses and scores on the artist scale of the *Strong Vocational Interest Blank for Men*.

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Index to Volume XXII, No. 2

Page citations are made to single pages; these are often the beginning of a chapter, section, or running discussion relating to the topic.

- Art, appreciation, 141, 147; esthetics, 141; learning and creativity, 145; measurement, 148; and personality, 154; teaching methods, 147; tests, 148
- Art education, 151
- ASTP methods, 116, 121
- Audio-visual aids, in language instruction, 124
- Bibliographies, elementary reading, 65; foreign language instruction, 117; high-school and college reading, 76; speech, 102
- Comic books, 79; and juvenile delinquency, 79; preferences for, 71
- Communication theories, 110
- Curriculum, English composition, 97; music, 136; speech, 109
- Discussion technics, evaluation of, 107
- English composition, 96; curriculum, 97; evaluation in, 96; teaching methods, 97
- Esthetics, 141
- Extracurriculum activities, speech, 108
- Eye movement training, 77
- Fine arts, 141
- Foreign languages, 116; prediction of success in, 129; teaching methods, 120; tests, 128; trends and objectives, 117
- French language, teaching methods, 123
- German language, teaching methods, 122
- Handwriting, 93
- Instructional materials, reading, 66; speech, 109; language, 124
- Interests, reading, 71, 79
- Juvenile delinquency, and comic books, 79
- Language, foreign, 116; psychology of learning, 118
- Listening, 108
- Measurement, art, 148; music, 137; reading, 72
- Music, curriculum, 136; psychology of, 138; tests, 137
- Music education, 136; supervision of, 136
- Musical behavior, 139
- Needed research, reading, 73
- Oral-aural methods, 122, 124
- Personality, and art, 154; and reading, 80; and speech, 104
- Phonetics, 102
- Prediction of success, in college English, 99; foreign language learning, 129; reading, 72
- Psychoanalysis of art, 144
- Psychology, of art, 144; of learning foreign languages, 118; of music, 138
- Readability, 78; of science textbooks, 66
- Reading, 65, 76; achievement, 67; bibliographies, 65, 76; in college, 76; comprehension, 80; in the elementary school, 65; in high school, 76; instruction, 67; instructional materials, 66; interests, 71, 79; measurement, 72; needed research, 73; and ocular factors, 78; oral, 80, 107; and personality, 80; physical factors related to, 78; remedial programs, 76; reversals, 82; silent, 107; status of achievement in, 65; teaching, methods, 76; tests, 72, 80
- Remedial reading programs, 76
- Reversals in reading, 82
- Spanish language, teaching methods, 123
- Speech, 102; and the audience, 105; bibliographies, 102; children's, 104; curriculum, 109; extracurriculum activities, 108; group influence on, 106; in industry, 107; instructional material, 109; and language, 104; and personality, 102; and thought, 105
- Spelling, 89; errors and difficulty, 90; and language ability, 92; teaching methods, 91; word selection, 89